GERIATRIC NUMBER

the

Journal

of the association for physical and mental rehabilitation

CORRECTIVE THERAPY

JANUARY-FEBRUARY 1954

VOL. 8, NO. 1

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JANUARY-FEBRUARY 1954

Volume 8 Number 1

Published Bimonthly
by the Association for
Physical and Mental Rehabilitation
Headquarters, 1472 Broadway, N. Y. 36, N. Y.
Telephone Bryant 9-9642

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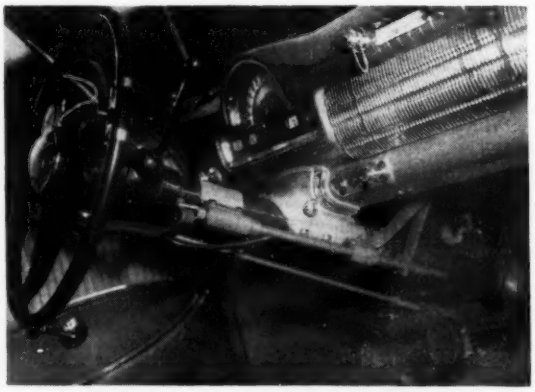

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AN EXERCISE DEVICE FOR TREATMENT OF ORTHOPEDIC AND NEUROLOGICAL CONDITIONS OF LOWER EXTREMITIES

GEORGE HEOS*

This paper describes the Heos Roller Bearing Exercise Shoe, a device designed for exercise treatment of orthopedic and neurological conditions of the lower extremities. This shoe, in use for about five (5) years in this and other Boston Area Hospitals, has been found to be particularly valuable for patients having hip-cup Arthroplasties, menisectomies, arthritis, poliomyelitis and some hemiplegias. Patients with these conditions require exercises to strengthen the abductor and adductor muscles in order to increase the range of motion laterally and to provide sufficient strength for eventual ambulation. In addition the strengthening of flexors and extensors of the hip and an improvement in the range of motion of the hip and knee are often required in the above mentioned conditions.

The chief advantage of this shoe is that it enables the performance of abduction and adduction, flexion and extension exercises without changing the position of the shoe in order to accomplish these respective movements. This and other features have led to the abandonment of the ordinary roller skate which previously was used to accomplish these therapeutic aims. The rest of this paper will describe the use of this exercise shoe and the way in which it operates as a more therapeutic device than the commonly used roller skate method.

The use of the roller skate often entailed frequent adjustments and re-adjustments to the patient's foot, thus whenever a therapist changed he exercise from adbuction-adduction movements to hip flexion and extension it was necessary to unstrap the skate, change its position and adjust all accessories. With the present shoe such extra re-adjustments are not necessary. The shoe fits on the foot more easily than the roller skate since the patient simply slips his foot into the shoe and there is only one strap to buckle. A steel T-shaped plate which is attached to shoe and which has roller bearings placed underneath the plate in appropriate positions enables the patient to permovements as required (see appendix). Thus economy of time is achieved for patient and therapist because once the shoe is put on no further adjustments are necessary.

The use of the Shoe is also economical because it relieves the therapist from having to work individually with the patients at all times. There is no need for very close supervision or for additional therapists when the patient load is heavy. Patients can be easily instructed in the use of the roller bearing shoe in accordance with their needs for treatment. One therapist under this procedure can supervise as many as six patients at the same time, and still provide detailed individual attention to those who need it.

Another basic advantage of the shoe over the roller skate is that it eliminates the need for straps, felts, sponges and bands that were previously used to make the patients foot and leg comfortable and to keep the leg from tilting to inward or outward rotation. Regardless of how well the accessories were used as supportive devices to protect the foot with the old method, there was always the problem of preventing sagging and slipping that continually offset the value of these items. In addition when the roller skate was used it was impossible to prevent drop foot conditions while in use and as a result exercising via roller skate was often uncomfortable and painful to the patient. Obviously the straps could not be fastened tightly for fear of constricting circulation.

The present shoe successfully overcomes these deficiencies in the following ways. In the first place it is lined on the inside wth thin absorbent sponge rubber material which serves to prevent any irritation of pressure points on the foot. Secondly, when the shoe is fastened securely there is no danger of circulatory constriction. Thirdly, the shoe is so constructed that the foot can be along the quadrant by means of tightening or loosening a butterfly nut and then sliding the shoe to right or left quadrant (see Fig. 1). In this way not only can the foot be kept in position of dorsi-flexion but it also can be placed in various degrees of eversion or inversion to keep the leg in inward or outward rotation, according to the patient's needs and the doctors prescription. For example, if a patient with a hip-cap arthroplasty has an exaggerated inward rotation of the leg, it tends to throw the hip-joint out of alignment, thereby making it difficult for the cup to fit properly into the acetabulum. Adjustment of the shoe quadrant tends to prevent the possibility of poor mechanical alignment of the leg. It should also be mentioned that by keeping the foot and leg in the correct position the proper muscles

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Fig. 1—Construction showing attachment by wing nuts allowing positioning of extremity.

are strengthened, and thereby preventing muscular imbalance which might otherwise occur when the leg was exercised in the wrong position.

Since the roller bearings ride smoothly and are fastened close to the shoe (about 3/4 inch) it is possible for the leg to remain straight and close to the bed and thereby preventing possible hyperextension at the knee joint see Fig. 2). This was not possible with the roller skate method since the foot rested over two (2) inches above the bed and continual alertness to the danger of hyperextension and pain was necessary. The Heos Roller Bearing Exercise Shoe has other basic advantages. It is easily constructed, requires very little space for storage, is a single unit and requires little time and effort to adjust to the patient's foot. In contrast, in the roller skate there is frequently a flattening out of the wheels with the result that bumps occur and the ride over the board, which is placed on the bed, is not smooth. In addition the little bearings around the wheels sometimes fall out and then the wheels move with difficulty. With the use of single, large roller bearings at appropriate points on the present shoe such defects do not occur. Finally this shoe is sturdily constructed and hardly ever needs repairing. (See Appendix).

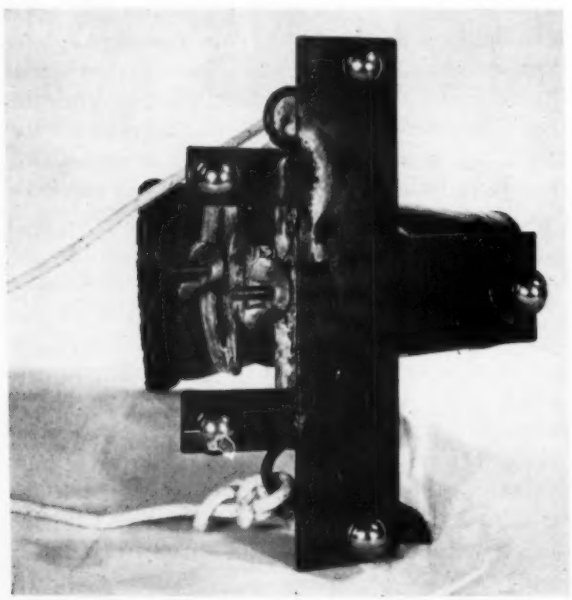

Fig. 2—Showing position of roller bearings (within ¾" of the shoe) preventing hyperextension of the knee.

The following case excerpt illustrates the use of the shoe: The patient described here had rheumatoid arthritis with severe involvement and "freezing" of knee and hip joints of both lower extremities. He had cup arthroplasty operations performed on both hip joints. These operations were performed one at a time and over six months apart, and allowed the patient to work one leg at a time for attaining good range of motion of his hip joints. Eventually it was necessary to exercise both extremities simultaneously. For this, the patient wore two roller bearing shoes at the same time. By use of pulleys on each end of the bed board and two rings attached on each side of the shoe and a cord ran from the patient's hands through the pulleys and tied to the rings on outside of shoe, the patient was able to pull his extremities to abduction with this set-up (See Figure 3). In the

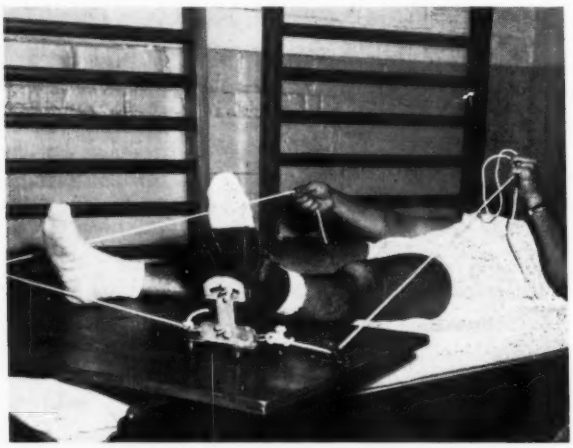

Fig. 3—Patient performing adduction and abduction exercises.

next exercise sequence he brought the extremities back in adduction to medical line or to 10° - 20° from the medical line as the patient's doctor requested. When working one hip joint at a time, separate cords were placed in each hand of the patient, which ran through the pulleys on each end of the bed board. One was attached to the outside ring on the shoe so that the leg could be pulled into an abduction position, while the other cord was attached to the ring on the inside of the shoe so that leg could be pulled into an adduction position. Through the medium of the overhead pulleys and slings placed under the knees, the patient could pull the overhead cord to perform knee and hip flexion and extension exercises. (See Figure 4).

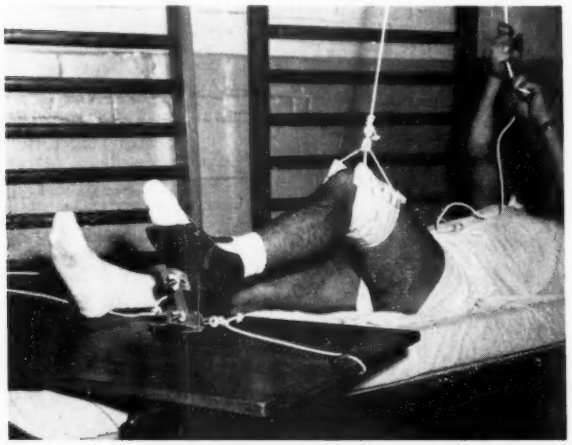

Fig. 4—Patient performing flexion and extension exercises.

SUMMARY

The use of a Roller Bearing Exercise Shoe has been described as an exercise device for the treatment of orthopedic and neurological conditions of the lower extremities. Its superiority over the roller skate generally used for these conditions has been demonstrated. The construction of shoe is described in the appendix.

CONSTRUCTION OF SHOE

The construction of the shoe is as follows: (See diagram 1). An orthopedic shoe about Size 11 or 12 with front of toe cut off; at (A) a strap and buckle is sewed on to take place of lacing. (B) and (C) are where two wing nuts are placed with the (B) in a slot on the quadrant so that shoe may be tilted to keep leg in inward or outward rotation. Ring is attached on (D) or welded on to plate to tie string or cord for pulling leg to abduction. A ring is also attached on other side of same plate to pull foot into adduction. (E), (F), and (G) are ball bearings 3/4" in diameter of which there are 5 in all and are placed in inserts such as (H) and which in turn are welded on to plates as (H).

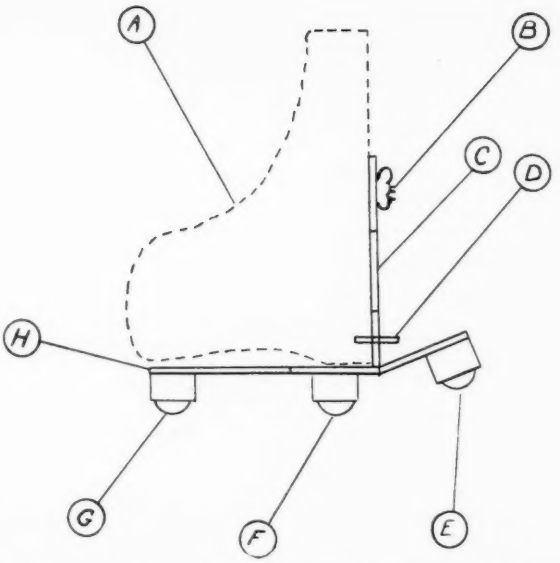

Diagram 1—Showing construction of the Heos Roller Bearing Exercise Shoe.

Diagram No. 2 gives the sketch of the plate under shoe and shows that the plate is all in one piece. The plate used in construction of this equipment is 1/8" cold rolled steel. The long strip extending from left to right is 9" long and 2" wide. The strip in the center of this plate which extends upward (also goes up back of shoe from heel) is 3" long and 2" wide. The two strips extending down from the longest strip are 2" long and 1" wide and are 3" apart from

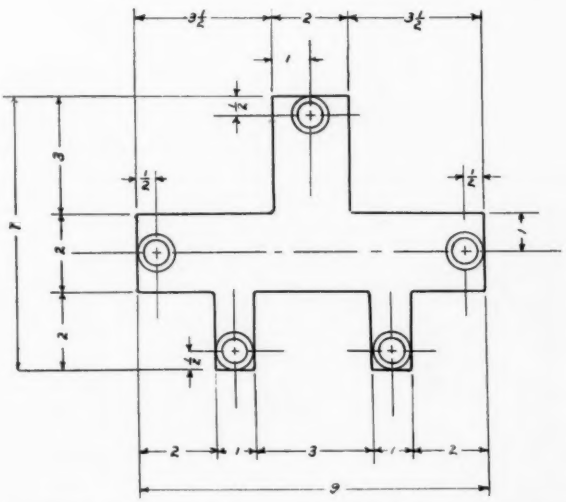

Diagram 2—Showing one piece plate construction and location of roller bearings.

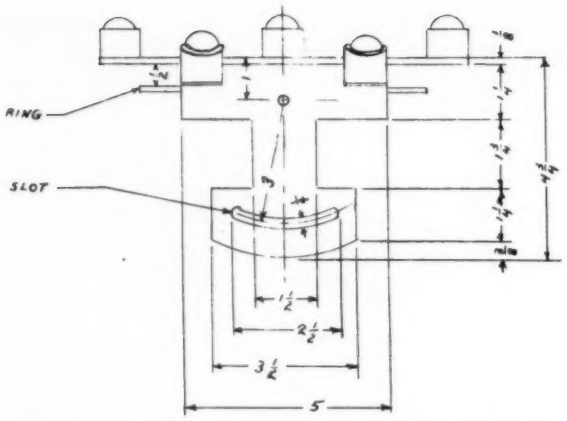

Diagram 3—Showing location of the quadrant section and slot.

each other, are also tilted up about 20° so that weight of foot will rest on these when doing flexion and extension exercises. Circles on these plates represent the ball bearing and ball bearing inserts which are welded on to plates.

Diagram No. 3 shows the quadrant section which is welded on to the longest plate and going up the sole of the shoe. The quadrant slot is 3" long and has a 1/4" opening. The steel rings for tying cord are on each end of the strip. Then a narrower strip 1 3/4" high and 1 1/2" wide extends up from that piece which is 1 1/2" high on the sides and is 3 1/2" wide. This whole section going up sole of foot is 5" high from the long steel plate.

ACKNOWLEDGEMENT

The author gratefully acknowledges the assistance of Dr. Fritz Friedland, Chief, PMRS, VA Hospital, Boston, Mass., for valuable suggestions offered, and to Dr. Reuben J. Margolin, Executive Assistant, PMRS, VA Hospital, Brockton, Mass., for valuable assitance given in editing the manuscript.

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THE PROBLEMS OF TREATMENT INVOLVED IN THE MANAGEMENT OF GERIATRIC PATIENTS*

C. C. BURTON, M.D.**

In the United States in the year 1900 the average life expectancy was 47 years. In 1951, life expectancy was 67 years for males and 71 for females—an increment in longevity of over 20 years in half a century and steadily rising. While the total population of the country has more than doubled since 1900 the number of people over 67 has quadrupled. Today these 67 and over folks are 12 million strong; by 1980—only 27 years hence, it is estimated that they will be 24 million. What are these millions to do? Sit around whittling or twiddling their thumbs, waiting to die? Having no occupation but the weekly trip to government offices to collect their old age pension or insurance? According to Dr. Theodore C. Klump in a recent speech, a pension of only $100 month to oldsters puts a tax load of 29 billion dollars a year on the shoulders of their juniors. If, on the other hand, useful work could be found for even one-fifth of the 24,000,000 at an average wage of only $2,500 a year, that would mean an annual wealth production of more than 12 billion dollars. There have been numerous instances of men chronologically old who are retired but physiologically youthful and useful.

The toll of prolonged disability of varying degree consequent to chronic illness is so immense as to be almost immeasurable. Aging per se does not necessarily imply chronic illness. Chronic illness is of course not limited to those in the senescent period of life. Nevertheless, both the incidence of chronic illness and the degree of disability therefrom, are markedly increased after age 40—varying from 6 : 1000 to 50 : 1000 at age 70. Impressive as these figures are, this fails to reveal the full present and impending significance of long term illness in the health problems of today.

Chronic illness by definition means impairment of health over a protracted period. Strangely enough, the actual onset of the disorder may precede its recognition by many years. This is typically illustrated by diabetes and arteriosclerosis. Health, like age, is relative. We speak of Perfect Health as that state of being in which all the functional capacities of the organism have maximum reserves. Optimum health is affected by age. Normal health is practically synonymous with Average Health.

Cure of most chronic disorders, in the absolute sense is usually impossible, for irreversible changes have occurred during the long, silent early phases. Control, as illustrated by the therapy of endocrine disturbances as in diabetes mellitus, hyperthyroidism, the climacteric, and the deficiency diseases, is more frequently the objective. Often the maintenance of a status quo is a significant therapeutic accomplishment. Similarly, partial rehabilitation and improvement are often possible and may be dramatic. Motivation for the efforts, requisite for improvement is of primary importance. Little can be accomplished with an adamant individual without the will to improve health. Moreover, the handicapped person will not exert himself toward rehabilitation if there is no place in society where he may find the satisfaction of usefulness. The management of long term illness involves psychological, sociological and economic problems as well as purely clinical therapeutics.

The physician has learned that man is a physiologic whole and that one organ or one system cannot be considered to the exclusion of the others. It is just as vital in consideration of health and disease that we realize that, for all his independence, he is inextricably a part of a family, of the community and of society. This in turn means that in meeting the needs of the patient, the effect of his family and his environment on his illness must not be overlooked.

Sickness always brings with it emotional and social dislocations. In acute disease where the period of illness is short, the disturbance in familial and social relationship is fleeting and is quickly mended as the patent convalesces. In chronic disease, however, which by definition is protracted and tedious, the emotional and social aberrations concomitant with the illness are of great importance to the patient's well being, in fact at times, more important than the disease itself. The patient who has been regularly employed, moderately thrifty, father and husband for 25 years and who one day finds out that he has a serious cancer has much more threatened than his life. The illness sets in motion a closely related chain of events which threaten the relationship he has built up with his family and society over many years. He is emotionally disturbed because his wife must assume some responsibilities which were formerly his. He is distraught because members of his family have had to

*Given at Ohio-Kentucky Chapter Convention, Sept. 19, 1953.
**Chief, Professional Services, Veterans Administration Center, Dayton, Ohio.

give up their schooling earlier than had been planned. This violent change in situation affects as well his response to treatment. This whole complex of relationship which surround and affect this man and his illness is not readily apparent to the casual observer who sees him in his hospital bed and firmly believes that all of modern science is being used for his benefit. A most significant and unpleasant fact, however, is that our scientific advances have focused our eyes away from the homely virtues of the doctor of another day, who possibly because of his paucity of medical knowledge and limited therapeutic agents became the confidant of the patient and the counselor of the family. To recapture what we have lost and keep as well what we have, requires a doctor not only skilled in all technical aspects of medicine but also in the understanding of people and their problems.

In other words, it is not enough to consider the physical disability of the patient in his planning program. Rather, emphasis should be placed on his physical capabilities in very specific terms, such as his capacity for self care, for ambulation, for use of his hands, and for his willingness and sincere desire to accept proper guidance. To be realistic and expect any reasonable prospect of employment, one must concentrate on preparing the patient for the physical demands of daily living. Not all patients can be prepared and so, for some, home employment or sheltered work-shop employment furnish the answer. The geriatric patient will not find his way back to regular employment although he may be only a partial invalid. For the deadly doldrums of old age our communities are sorely in need of some type of combined activity for furnishing entertainment and an opportunity for creative effort to give purpose and promise to the still useful years that follow retirement.

It is a well-known fact, however, that most physically normal persons lose their jobs because of personality defects. It is into this pitfall that physically impaired persons also tend to fall. This is because all too often those who have had a prolonged illness or hospital stay convalesce physically but not psychologically. When a good rehabilitation viewpoint is not maintained initially, most patients become debilitated psychologically. This is very important when considering an individual's potentiality for work, since many of the poor psychological habits may have been inadvertently built up in the hospital or home which are the very ones to make him vocationally objectionable. It is therefore very important to recognize the setting of a vocational goal as early in the hospital as possible, is one of the best motivations for rehabilitation.

The Department of Medicine and Surgery of the VA has been in the forefront in planning the rehabilitation of the ex-service patient in their intrahospital stay as well as in their post hospital family and communty relationship. The Aspinwall group made pilot studies. Their results were so encouraging that our Area Medical Director has been very much interested in promoting the establishment of similar post hospital planning programs at other suitable VA installations.

The placement of the physically handicapped in suitable family and community environment and if employable in renumerative positions has been in progress on a limited scale at this station. The medical feasibility of discharge is first determined following which a team reaction is set in motion. The team consists of the physiatrist, the social service representative, Vocational Counselor and Contact Representative with the expectation of adding a volunteer worker to the team. Through their cooperative and collaborative efforts a careful evaluation is made of the veteran's capabilities which are integrated with the circumstances that will confront the patient at his home. A careful study of the community receptivity with plans for individual follow-up through the local welfare agencies is being made. Obviously, it will require same time for critical evaluation of the results of such a program. A statistical record is being maintained by the social service department which will form the basis for a second report by that department.

Approximately five years ago special consideration was given to a proposal for the establishment of a geriatric hospital at this Center. The plan was submitted to the Chief Medical Director and the Administrator who authorized the establishment of a chronic or geriatric hospital (Patrick Hospital). While the building has a capacity of 300 beds, because of inability to recruit sufficient nursing and medical staff it has only been possible to operate 150 beds. We are very much encouraged by the special care and treatment given these patients and feel that it is another milestone of progress in the handling of these patients. Those who have seen the plan in operation have shared our enthusiasm. Many new methods in the care of these debilitated patients have been introduced and the staff is continuously exploring new techniques to be used in their care. Concomitantly new equipment is being tried and reports are submitted to the Chief Medical Director as to its practical application in a chronic hospital. An article pre-

pared by the nursing supervisor of this hospital has been given service wide distribution. Too much emphasis cannot be placed on the proper selection of suitable personnel for the geriatric hospital. A program of continuous indoctrination has been initiated by holding staff conferences regularly and stressing important phases of the nursing care of the geriatric patient. The physical medicine and hehabilitation service plays an invaluable role in training these patients in self care. By this means it is often possible to convert a total invalid to a partial invalid. Many times the patient's attitude of despair, dejection and sulliness is changed to one of hope, happiness, and increased cooperation. We too often overlook the fact that such an achievement in a geriatric patient requires greater effort and patience than in the rehabilitation of the younger patient who has become disabled through trauma or complications of an acute illness.

The geriatric patient may be classified according to the illness contributing to his principal disablement. However, these patents often have more than one chronic disease and consequently multiple disabilities. It seems to us that a more practical classification is to group them according to the type of medical and nursing care which they require.

The following classification has worked out satisfactorily at this station:

(a) The general medical and surgical geriatric patient.

(b) The geriatric patient with a psychiatric component.

(c) The geriatric patient with a superimposed acute condition requiring treatment in the acute hospital.

(d) The domiciliary patient—non-duty and duty.

This grouping lends itself to the placement of the patient in different types of hospitals for institutional care and is self-explanatory. It must be realized that the patients placement may not be permanent, depending upon his progression, regression, or complications that may arise.

I should like to relate the story of a patient who required bilateral upper thigh amputations for severe peripheral vascular disease with early gangrene. The amputation stumps were too short for fitting with artificial limbs. However, he was furnished with a platform to which was attached ball bearing roller-skate sized wheels. During the patient's convalescence he received corrective therapy and taught to use the prosthesis. Several months after the veteran's discharge he sent me the pictorial section of the Akron Sunday paper with his picture and a descriptive legend to the effect that he was working regularly, making a valuable contribution to the war effort (WW II) and, in addition, he had a victory garden.

This is a dramatic result but it illustrates what can be achieved with the severely handicapped. Proper motivation and the setting of rehabilitation goals early in the patient's convalescence is essential. Moreover, it emphasizes the importance of cooperation of the community and industry in attaining maximal rehabilitation.

CONCLUSIONS

1. The geriatric patient is a joint medical, sociological and economic problem.
2. The medical profession and allied disciplines working as a team have an increasing responsibility for the care of the growing geriatric population.
3. We are indebted to the nursing service for their inordinate devotion, their professional attitude and their warm friendly but mature emotional personality displayed often under trying situations and circumstances.
4. The social service department assumes the major role in paving the way for the familial and community, reception of the geriatric patient.
5. I should like to pay tribute to the physical medicine and rehabilitation department for their excellent work and splendid attitude, which have contributed immeasurably to the happiness, contentment and self care of these patients.
6. It is the fervent hope that the attitude of the people of the greatest nation, enriched by vision and fortified by experience, shall be one of more sympathetic understanding for the geriatric patient and that ultimately there shall be provided adequate means to meet the challenge of the evolution of our aging population.

SOME DUES ARE DUE AND OVERDUE. ARE YOUR DUES DUE OR OVERDUE?
IF YOUR DUES ARE DUE, THE THING TO DO, IS PAY BEFORE THEY'RE OVERDUE.

SOME BASIC CONCEPTS ARISING FROM DAILY WORKING RELATIONSHIPS IN CORRECTIVE THERAPY

ARTHUR LANDY*

From what has been said in the previous discussions, we can see that Corrective Therapy is certainly not standing still, but growing and developing. I think that it is well for us to remember this. Consequently, we don't as yet have many hard-and-fast rules and regulations; we don't have any rigidly binding, special "laws of learning" for Corrective Therapy.

This basic concept of growth, development and change can be broken down into several more specific concepts. First, we can think of Corrective Therapy in terms of the patients whom we treat—the patients, the men, who themselves are growing, developing, changing individuals. Secondly, we can think of Corrective Therapy in terms of ourselves, the therapists who are, or who should be, constantly progressing and improving. Finally, we can think of Corrective Therapy as a growing science—as a body of knowledge that is growing and becoming more accurate, more refined, as time goes by.

From each of these three points of view, progress may be observed. Today, however, we are not so much concerned with observing progress as we are with finding out how we can *make* progress. What can we do to improve our Corrective Therapy program, ourselves, and the men whom we treat?

THE MAN

Here we call them *men* rather than patients in order to emphasize the idea that we need to become acquainted with the man—not just his diagnosis, not just the prescribed treament aim, but the *man*. Our treatment aims and the various other specific classifications are not nearly so important as the man himself and the activity that goes on between the man and ourselves.

As we become acquainted with the man, we can see that his behavior and the interpersonal relationship developed are not determined solely by his interests in Corrective Therapy; for he is not merely a Corrective Therapy man, but a man who has various other interests and who must adjust to various other situations as well.

In our acceptance of him as a man, we should not feel that a particular set of symptoms calls for any one specific type of treatment. Patients who seem to manifest identical symptoms do not always respond to identical treatment. Constructive activity for one man may be entirely different from constructive therapy for another. I am not disregarding specific treatment methods, but am attempting to show that we have a broader field of endeavor when we work with and attempt to help our patients as *men*.

To enable our men to gain the most from Corrective Therapy, we must stimulate activity and trial, without which little learning occurs. Corrective Therapy as an activity is sound, because it emphasizes just this: learning through activity and trial—the most effective sort of learning.

This, however, can be accomplished only when we have a *progression of goals*. I do not mean that we should have all the goals, or even a single specific goal, for each man, but that we should put continual emphasis upon the principle of growth, development, change—rather than upon the constant reapplication of the same patterns of evaluation over a prolonged period of time.

We must approach each man on a *level of least frustration* and then lead him properly in stimulating techniques which are not static, not the same every day. From day to day, we should add new goals and interests in an effort to move him on to a higher level. After a patient has been in Corrective Therapy for, let us say four months, we should know that he has had four months of experience—not one month repeated four times, not one week repeated sixteen times, but constant reappraisal and change in activity. Given progressive activity which is enjoyable and yet purposeful, the patient has the urge to develop his potentialities and gradually to assume responsibility for himself in meaningful situations.

Merely to assign a patient to our program and have him attend regularly may lead him to feel that he is being coerced or punished. "What's it all about? Why am I being brought here? What are they doing to me?" he wants to know. We should endeavor to appraise the patient's expectancy of what he is going to get out of Corrective Therapy, and what Corrective Therapy means to him; and then we should attempt to alter our activity program so that he really feels and knows what is happening to him.

Progression of goals can come about in the very nature of the activity itself. If it has something to do with gait training, striking a bag, or shooting

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baskets, the Corrective Therapist can make statements and predictions which the patient can utilize in his progress. This activity that takes place must be perceived and encouraged by the Corrective Therapist, so that the patient is aware of it; for, as he comes to understand what he is doing and achieving, the patient gradually assumes responsibility for himself and develops constructive relations with others.

From a Corrective Therapy viewpoint, we often feel that we've accomplished our goal . . . if, for example, we've taught a man to use his artificial leg, or have attained results from a geriatric standpoint. These represent the satisfaction of immediate needs; but there should be other goals. There should be continual reinforcement of the greater system, to enable our men to do other things—such as walking to the canteen, purchasing a pack of cigarettes, returning to the buildings.

At this point it might be well to ask: What is the therapeutic outlook for many of our patients? I raise this questions because many interested and conscientious people seem to feel that our treatment has been a failure except when we restore patients to the status of usefulness which they had prior to their illness.

We can't of course, always attain this ideal. But we can aid in the total approach and help our men to the point where they can possibly be discharged and work a month at a time instead of a week at a time. Even if a man doesn't improve to a point where he can be discharged, we can often teach him to do things that are necessary in daily living at the hospital. By helping him to make a better adjustment to hospitalization, our treatment may be decidedly successful.

THE THERAPIST

Up to this point, I've discussed mainly our patients, our men. Now, it might be well to take a look at ourselves. What sort of people are we?

Corrective Therapists have been regarded as people who possess masculinity. To flatter ourselves a little more, I might remind you that it is often assumed that we represent the ego ideals of the patients assigned to us for treatment. However that may be, the activities which we offer do have a great deal of social and cultural approval. Physical activities have long been regarded as good; they are generally recognized as having a great deal of value. But Corrective Therapy does not stop here. In addition to embracing sports and hobbies, Corrective Therapy possesses intellectual and aesthetic possibilities.

To get the maximum patient participation in this varied program, we must believe in it ourselves. How else can we have the courage to help the patient assigned to us for treatment? We must recognize its possibilities. We must have a positive and enthusiastic outlook in a planful scene.

The appearance of aggression by our patients is sometimes a cue which should start us on the road to self examination. I think that some of us antagonize our patients by being "too nice" to them—too nice in a shallow, artificial sort of way. At times we tend to impose ourselves on them, trying to get them to express our own desires. We want them to react with a predicted response. And when they do not, we feel deflated and humiliated.

As a matter of fact, I think that many of us do too much talking—or rather talk too loosely. We sometimes find it difficult to assume a listening role. We are at times impatient. We do too much prompting, too much interrupting. When we are dealing with patients, we sometimes tend to give them unnecessary assurances.

To avoid this sort of thing, we should recognize that each patient is an individual with his own hopes and desires, his own values, his own needs. And we should attempt to be the kind of therapist who can help the patient to help himself. To illustrate. The treatment of hyperactive patients has been made much easier by the introduction of swimming therapy which, we have found, is a type of treatment where the patient may be allowed to become an active, contributing force toward relieving some of his own anxiety and stress. Needless to say, success depends much on the proper handling by Corrective Therapists and our ability to individualize our treatment. Rather than apply techniques that are static and passive in nature, we should do our utmost to encourage patients to develop new and different techniques for relieving their anxiety and stress.

Here I feel compelled to talk a bit about group activity. Corrective Therapy in many of our hospital programs is not group activity per se, but individual therapy practiced in groups. Work is done not with a group of people—but with a group of *individual* people. But a Corrective Therapy group is something more than a mere *audience* of people. Usually our patients are an interacting group, or at least a participating audience. And, as a Corrective Therapist, I think that we should strive continually to change our group structures from those of a participating audience to those of an interacting group.

The relationship between therapist and patient is of utmost importance. It's astounding to see and read the number of articles that have appeared re-

cently in which one of the principal conclusions was that nothing else is more important than interpersonal relationships. The therapist-patient relationship throws its heavy weight for or against favorable results.

It has been said that the right person will often obtain good results with the wrong method, while the wrong person will fail consistently even though he uses the right method. This is not the whole story, but there is a lot of truth in it. The fitness, the training, the skill, and the *personality* of the therapist determine the outcome of a successful program. The personality of the therapist is very important in securing and maintaining a favorable relationship with the patient—in not allowing the man to feel frustrated or forced to withdraw, or to behave in some fashion which is inadequate.

Our sympathy, understanding, and encouragement can be strong supporting factors to the man with everyday problems. Although some of our patients, in responding to our efforts, seem depressed, withdraw and slow to join our group . . . when handled considerately and quietly, they will often begin to show some definite concern for what the group thinks and for the general environment of which they have become a part.

THE RESULT

Scientific progress is, of course, necessarily slow. It is only after persistent, long-continued labors that we improve our program. To do this we must constantly *feel our way forward,* and be eager to use new, enlightening information as fast as it becomes available. If we are to progess, we can't become technique bound; we can't become routine and oversystemized.

We must go after new ideas, capture them from our journals and other professional literature, from our conferences and conventions, and from our own daily working relationships with our patients. We must capture new ideas, talk them over, communicate them, and whenever posible test them to see which are efficacious in bettering our treatment methods and in realizing our total obligation to the *men* whome we treat.

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GERIATRIC SURGERY*

WILLIAM G. ECKMAN, JR., M.D.**

Members of the Association, Mr. Moore, Dr. Burton, members of the staff, and guests:

It is with a considerable degree of pleasure that I have accepted this invitation to speak to you today upon the general subject of Geriatric Surgery. In keeping with the context of today's program, I shall dwell upon some of the common denominators that we encounter in the treatment of the geriatric patient, and I hope to be able to emphasize a somewhat more promising concept regarding the problem.

All of us are familiar with the difficulties that are encountered in the care of the so-called custodial, geriatric hospital patient. To be sure, these cases are —and remain—a considerable challenge to all of us. These persons represent, in a certain way, the fruits of recent medical progress, a progress that has led to the saving of the life of the young, the lengthening of the life expectancy span, and the creation of a gradually aging population. But that many of our older people will be struck down by some chronic degenrative disease and thereby rendered helpless, is self-evident.

I should like to stress a more promising approach, however, or one that, perhaps, has not been considered with sufficient emphasis in this entire matter. This concept is based upon the fact that in many instances we might prevent the invalidism of many of these persons, or at least delay it, by applying more widely to the aging population the fruits of our present day advances in the field of Medicine as a whole, and particularly in the field of Surgery. By so doing, I am confident that rehabilitation can be offered to many elderly patients and their invalidism substantially reduced. To prevent disease is the primary aim of medical science. To prevent, in so far as possible, chronic debility and invalidism should be a primary aim of geriatric medical science.

Varous disease processes affecting the human body can conveniently be divided into four general categories. These are, namely: (1) diseases due to congenital defects; (2) diseases caused by infectious processes; (3) tumors or new growths; (4) diseases of traumatic nature; (5) functional or psychiatric and (6) lastly, the broad category of degenerative diseases. During the past several decades we have made considerable progress in elimination of diseases belonging in the first three categories. Progress in the treatment of the chronic disease group has been necessarily slower.

In the last decade, in particular, we have become increasingly aware of the problem of a larger elderly population and, as a direct result, more emphasis has been placed upon geriatric disease and improved methods of treatment of these patients have gradually been evolved. Dr. Amos Koontz of the John Hopkins Hospital has aptly described geriatric surgery as often "the surgery of neglect". Too frequently our previous evaluation of these patients has been predicated upon the false assumption that a particular individual is too old for surgery. A recent survey made at the Vanderbilt University Hospital shows that for the year 1926-27 only 2.3% surgical procedure was performed on patients over 69 years of age. In 1950, this figure had tripled. And while the number is still small, it continues to grow. For example, in the 1926-27 year period there were no gastro-intestinal operations performed in this group. In 1950, a total of 10% of all geriatric operations were performed upon the gastro-intestinal tract.

We are all aware of the remarkable advances that have been made in modern surgical treatment. Due to the work of Lister on asepsis and continuing through the phase of development of modern anesthesia, antibiotics, blood transfusion, X-Rays, and radium treatment—to mention just a few—we have been able to offer to all persons more radical and more curative surgery, with a lessened morbidity and mortality. Only recently have we begun to realize that this progress has perhaps more to offer to the geriatric patient than his younger counterpart. For the young, these scientific advances have been *important;* but to the elderly, they have been *vital,* since in this latter group our margin of safety is less, our reserve and resistance necessarily in more precarious balance.

Many of us will recall the hopeless plight in the past of the elderly man or woman who suffered a fractured hip. Indeed, this was considered by many physicians to be an almost certain precursor of death, since these patients formerly required prolonged bedrest, often in a cumbersome traction type of apparatus with all the inherent dangers of decubitus ulcers and pneumonia. These persons seldom died of their fractures: they nearly always succumbed to the pneu-

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* Address delivered at Ohio-Kentucky, Chapter Convention, Sept. 19, 1953.

** Acting Chief, Surgical Service, Brown Hospital, Dayton, VAC.

monia. Even those fortunate enough to recover were faced with prolonged convalescence and a huge medical bill. Today, as you all know, we have adopted the policy of operating upon practically all of these patients. We insert a metallic pin or nail to fix the bone fragments; the patients are gotten out of bed early; and they very often (and usually) may be discharged from the hospital in less than two weeks following their injury.

There are many other conditions, perhaps of less emergent nature, which are well tolerated by the elderly patient. In the field of herniology, for example, we find ourselves continually operating more frequently upon older patients. In fact, we consider practically no patient, per se, as too old for a hernia repair. Too many persons have been told when they are young and have a small hernia that perhaps it will never bother them at all, only to find in advancing years that the hernia also advances and enlarges. Then they are told that they are "too old for operation" and are forced to spend their old age with a troublesome defect. It is, at the very least, painful and uncomfortable and often quite dangerour. In gall bladder and gastro-intestinal surgery, we again find our horizons widening. We find more of the older age-groups being advised to undergo corrective surgery, with a minimum of morbidity and mortality.

I could go along and enumerate many other conditions with which we are now dealing successfully in our geriatric surgical practice, but time does not permit. But I would particularly like to emphasize the value of doing a careful medical evaluation of each geriatric patient, as an individual, and applying to each patient sound surgical principles of treatment. In this manner, I think we shall find ourselves increasingly successful in practicing preventive medicine. We will correct pathological processes earlier, and as a relatively innocuous procedure, and thereby greatly reduce parmanent and prolonged invalidism, which is the fruit of the "surgery of neglect."

Just as a side thought, I would like to interject a little story. Many doctors (and we all are somewhat guilty) are too prone to explain many of the complaints of the older patient as "due to old age, nothing more." One is reminded of the young physician who was consulted by an elderly man because of an aching pain in his right leg. The young doctor wished tc appear quite versed in the art of rapid differential diagnosis and did a perfunctory examination and stated to the patient that the pain in his leg was due to old age; whereupon the elderly man replied, "But, doctor, the pain is in my right leg; my left leg is just as old and it doesn't bother me at all!"

Let us not forget that similar disease processes affect the young and the old mutually, though not in like manner and not in like degree. Let us not dismiss *any* complaint of the old person on the basis of age alone without a careful scrutiny for conditions which perhaps are amenable to medical or surgical correction.

I believe it would be well, now, to pass on to the theories of treatment of the geriatric patient who is already partially or completely disabled, and I hope to enumerate a few of the more important principles which can be applied to his care and rehabilitation.

Even though we have judiciously applied all of the foregoing toward the prevention of invalidsm, there are most certainly a great number of cases who will require supportive surgical care, prevention of complications of degenerative disease, and rehabilitation to the greatest possible extent. Perhaps there is no complication more dreaded by the elderly man or woman than the loss of one or both lower extremities, as a result of poor circulation and gangrene. This is particularly true in the diabetic patient who is notoriously less resistant to infection. To that end we must insure that all elderly patients take especially good care of their feet. This care can be self-ministered and merely involves careful bathing and lubricating of the feet, care in the trimming of nails and callosities, and avoiding of ill or tight fitting shoes. Various exercises within tolerance limits are useful in maintaining circulation and should be simplified to the extent that they might be understood by the elderly patient and carried on at home without professional supervision. Small ulcerations and localized infections about the feet and more especially the toes, warrants immediate consultation by the physician. If an elderly patient has lost one lower extremity as a result of amputation due to gangrene, usually we can aid in the rehabilitation of those patients by prescribing for them an artificial prosthesis. However, there will be a few patients in which the remaining extremity is afflicted with a poor circulation and we have to be especially conservative in regard to prescribing a prosthesis for the absent leg. In those cases we have to realize that the artificial leg may throw an added burden on the sound or partially sound leg, which, because of its poor circulation, might suffer from gangrene and necessitate a bilateral amputation, perhaps a few months or years earlier than we would normally expect. Now, in those cases, we still need not relegate the patient to a wheelchair; we can

rely upon the building up of the upper extremities in a view toward the use of crutches so that the individual may get about with his crutches on the remaining leg. Very often you will find that he can be returned to his community and live the remainder of his life in comfort.

In treatment of the chronic bed or wheelchair patient, the development of decubitus ulcers should be assiduously avoided. This can be accomplished by the proper padding around bony prominences and the recognition of potential areas of skin break-down before ulceration has supervened. An ounce of prevention is worth several pounds of cure, particularly regarding decubitus ulcers.

In the treatment of the hemiplegic, the Orthopedic surgeon has devised many intricate and very satisfactory mechanisms of bracing, which prevent invalidism and lead to the restoration of some degree of usefullness to the patient; and with the aid of competent therapists, we are often surprised at the degree of return of function found in some seemingly hopeless instances. Ambulation is of particular importance in the supportive care of the geriatric patient. If we can do nothing else, every effort should be made to get these patients out of bed; and, if possible, they should be encouraged to walk. Ambulation, by definition, connotes the act of movement or walking. It is not enough merely to get a patient out of bed and have him sit in a chair by the side of the bed and to call this ambulation. This feat accomplishes little more than sitting up in bed and does not relieve the problem of stasis and circulation in the lower extremities, nor does it lead to any more adequate aeration of the lungs. So, if at all possible, let us ambulate patients in the true sense of the word and encourage them by assisting them in walking.

At the expense of spending perhaps too much time this morning in talking to all of you and perhaps being repetitious, I could enumerate a number of other diseases which occur in the aged and which we encounter in the every-day surgical practice within this hospital, but I don't think that is necessary. Rather, I should like to re-emphasize just two points. *First,* let us not forget that today we can offer to the older age group the fruits of our advancement in medicine and surgery, and by so doing we can prevent or at least substantially delay, in increasing numbers, many of the invalids of old age. *Secondly,* may I point out that, once confronted with the totally or partially disabled elderly patient, we should properly evaluate each patient and each pathological process as it exists, correct those amenable to repair, and to do all in our power to rehabilitate the individual to a useful life. To be sure, there will be seemingly insurmountable obstacles in our paths, but these only re-emphasize the challenge. Let us not forget that it is an art to grow old gracefully. It is not an individual art but one that also requires development on the part of family, the community, the hospital, and the medical profession as a whole, with all of its allied specialties.

Now, just to emphasize a few points, I have requested (and they have been kind enough to comply with my request) three of our gentlemen who are presently in the domiciliary to come over here this morning so that you all may see them. Each one emphasizes a little different problem. They all can be classified under the general category of a geriatric type of patient. I will give you a brief history of these patients and show you how we have in one case, I believe, practiced a preventive type of surgery and, in the other two cases, I believe we have rehabilitated these individuals. Not that they are going to be able to go out and work at the Frigidaire plant 8 hours a day and 2 extra shifts on Saturday and Sunday, but they *are* able to enjoy their lives; they are not bed patients; and they are more progressive members of our domiciliary community.

The first patient I would like to present, just briefly, is a gentleman on whom we performed a type of preventive treatment. This man is 65 years old. He had difficulties with his heart and lungs, etc., and he also had a small tumor in his stomach, which was enlarging. Fifteen months ago we were able to remove the tumor and a portion of the stomach. His uneventful postoperative course was entirely without complications, and he is now in the domiciliary. He is relatively or practically asymptomatic, despite some of the other degenerative diseases from which he might be suffering, but they are not particularly bothersome. You see him here today. We're rather proud of the results: in a case that might have ended in a fatality, health has been restored to an individual who, I believe, will enjoy the remaining years of his life. (Mr. Burney, would you mind standing up so that they can see you?) His incision has healed perfectly and is in good condition. (Thank you very much.)

Now the next man is Mr. Werkowitz, who is 76 years old. He was admitted to this hospital in August of 1951 complaining of severe intermittent claudication in the right leg, the pain being of such severity that he was rendered bedfast. He could get up in a wheelchair only to go to the bathroom. Examination revealed a cherry red discoloration of the right foot, with evidence of marked peripheral vascular insufficiency and early pre-gangrenous changes in the toes. On August 23, 1951 a right lumbar sympathectomy was performed. With this operation this patient has experienced, we migh say, complete relief from his claudication. Discoloration of the foot is clear. The

patient is able to walk about and care for his own needs without assistance. He has been taken from his wheelchair and bed; he gets to his meals; and he walks around with only the help of the cane, which I wonder if he needs. Anyway, to elaborate a little bit, on the 17th day of July, 1953, Mr. Werkowitz developed a small hernia at the site of his operative area in his right flank. Now we didn't adopt the opinion that Mr. Werkowitz was too old for operation, but rather we operated on Mr. Werkowitz. We repaired his hernia since it was troublesome. It was enlarging and I believe in a few years it would have gotten to such size that he might have been back in the bed and the wheelchair. We repaired his hernia; his postoperative course was uneventful and he is now enjoying himself. (Thank you, Mr. Werkowitz.)

The next person is Mr. Ammon. (Mr. Ammon, would you mind standing up?) This patient was transferred to this hospital from Fort Thomas V. A. in November, 1951. He was bedfast at this time because of severe stasis ulceration of both lower extremities. He had had these ulcers for a number of years. They had been progressive and never were completely healed. This patient offered some difficulty in treatment as a bed patient. After admission to the hospital, we treated him with antibiotics and wet dressings to both lower extremities. The right leg responded satisfactorily to conservative treatment, but the ulcers of the left leg did not respond satisfactorily, and on January 3, 1952 we excised the skin from the knee to the ankle on the left leg and replaced it with fresh skin taken from elsewhere on the body. Postoperatively the skin grafted area healed satisfactorily, after two subsequent grafting episodes for very small superficial ulcers of the right leg. Patient was treated for a period of 167 hospital days in order to effect his ambulation. Since that time he has been regularly dressed for very tiny break-downs over the grafted area in domiciliary, but he has been rendered now an ambulatory patient. He has left his bed, he gets along very well, and I believe he is relatively asymptomatic.

SIDNEY L. TOABE*: REPORTS ON THE REMEDIAL GYMNAST IN GREAT BRITAIN

Corrective Therapists have often expressed the need for closer contacts with their apparent counterparts in Great Britain, the Remedial Gymnasts. In many ways the growth and development of these two ancillary therapies have closely paralled each other. As in our own country, there are still many controversal problems that the Remedial Gymnast must reconcile. Problems which have to do with education, training, medical recognition, qualification and the over-lapping of professional services.

"Remedial Gymnastics is the treatment of injury and disease by movement; it includes all forms of physical exercises, games, and recreational activities. The remedial gymnast treats patients individually, in classes or groups, and works in the hospital wards or gymnasium. He is trained to give treatment at any stage in the process of physical rehabilitation". (1)

During World War II manpower demands of both the Armed Services and Industry made it necessary to mobilize wounded or injured men much more quickly and efficiently. Since there were not a sufficient number of physiotherapists to meet the need, physical training (education) instructors were drawn from the Armed Services into hospital work. They were employed primarily in giving treatment through group exercises and games adapted to remedial exercises.

After the war, the Ministry of Health added a department of Rehabilitation and appointed Brigadier Wand-Tetly and Dr. Harold Balme as administrators of this new department. At their insistence, the Ministry of Health, in 1946, set-up a school for Remedial Gymnasts at Pinderfields General Hospital, Wakefield, Yorkshire. This school offered the opportunity to selected physical training instructors from the services to qualify for civilian hospital work. The Ministry of Labour also added its support by providing money grants for those ex-service men who wanted to take advantage of this training situation. The course, originally set-up for six months duration, has recently been extended to nine months.

The "School of Remedial Gymnastics and Recreational Therapy" in Wakefield accepts from thirty to forty students a year. Enrollment is open to fully qualified (ex-regular) physical training instructors from the Royal Navy, Army and the Royal Air Force and to physical education teachers who hold a degree from an approved training college of physical education. At the present time, training at Pindersfield is restricted to men. Applicants are screened by a selection board before being accepted as students.

The course material which is included in the nine months training period is as follows:

Part I

(a) Anatomy; (b) Physiology; (c) Basic Pathology; (d) Clinical Conditions which may be treated by Exercise Therapy; (e) Methods of Fixation and Support, Nursing Procedures; (f) "Psychology" (Approach to handling of the patient); (g) Medical Rehabilitation (organization and administration).

Part II—(Exercise Therapy Treatment)

(1) Specific Exercises; (2) Recreational Therapy; (3) Body Mechanics; (4) Hospital Etiquette.

A post registration course is also included which covers psychiatric conditions and their therapeutic implications.

The course material is based on what the Remedial Gymnast "needs to know" in order to carry out his duties.

Written and practical examinations are held at the end of each course. The examinations are conducted by an Examining Board appointed jointly by the Society of Remedial Gymnasts and the Board of Governors of the training school. Successful candidates are eligible for membership in the Society of Remedial Gymnasts. Remedial Gymnasts trained in this way are recognized as being suitably qualified for appointments in Hospitals, Clinics, and Rehabilitation Centers in the National Health Service.

At the present time, there are approximately 250 active *Remedial Gymnasts* in Great Britain. Over 90% of these men are working for the National Health Service in hospitals. The remainder are employed in Miner's Welfare Centers or in Industrial Rehabilitation Units organized by the Ministry of Labour.

The Remedial Gymnasts are still struggling for recognition from the British Medical Association and other professional medical societies. However, they have the strong support of the Ministry of Health through its control over the National Health Service. Even more so they have the endorsement of thousands of injured or disabled persons who have benefited from their treatment program.

* Fulbright Scholar in Rehabilitation.

1. *Reports of the Committees on Medical Auxiliaries* (par. 395), April, 1951, H. M. Stationery Office.

FUNCTIONAL AMBULATION FOR PATIENTS WITH ORTHOPEDIC HANDICAPS*

LESLIE BLAU, M.D.**

A program to correct the abnormalities of gait, or to enable one to walk with orthopedic disabilities can be intelligently prescribed and the treatments effectively realized only if all concerned in this undertaking have a knowledge of the fundamental anatomical and mechanical principles underlying normal locomotion.

The purpose of this paper is to review the mechanics of normal and abnormal gait and to describe the principal pathological variations that we may encounter in patients suffering from diseases and injuries that involve the neuro-muscular and skeletal systems.

The greater the number of factors that are lacking for normal gait, the greater the reviation of the gait pattern from normal. This, of course, implies that when the patient possesses only a few of the fundamental elements for normal locomotion, the most important of which are adequate muscle strength, free range of joint motion, and proprioception, one cannot strive for perfection of gait. Frequently one must satisfy oneself with any kind of ambulation, even though it may be laborious, awkward and as a result abnormally energy consuming.

The details of the mechanics of normal gait may be found in many monographs written on this subject and also in standard textbooks of orthopedic surgery and physical medicine. The essential features of the underlying principles of normal gait are as follows: The body is balanced as long as the center of gravity falls directly over the supporting base. When the body moves and the line drawn from the center of gravity falls outside the supporting base, it is no longer opposed by equal and opposite counterforces and the equilibrium is lost. In an articulated body as ours, the problems are multiplied by the fact that in addition to the main gravitational line of the body, all gravitational lines drawn from centers of gravity of each limb must fall within the base of support. This is especially true at weight-bearing points of contact, such as, the heel and ball contacting the floor, ankles, knees, hips, lumbo-sacral junction, intervertebral and atlanto-occipital articulations. The results is that equilibrium is possible only by muscle forces holding in check the rotational forces (1).

The alternating bipedalism of the normal human is realized by the alternating phases of swing and support, or more dynamically speaking, the alternating propulsion and restraint of the lower extremities. From the moment the heel, after the forward swing, touches the ground until it comes to lie vertically under the head of the femur, the limb acts as restraint and when the head of the femur comes to lie in front of the heel, the propulsion, or in other words, the forward pushing action of the standing leg comes into effect. During this alternating action of restraint and propulsion of one leg, the so called deploy, a rocking motion of the foot takes place while the entire limb changes from flexion to extension at the various points. The shortening is necessary to be able to clear the floor without stubbing the toes while elongation occurs as a necessary consequence of the extensor action required for the second phase of support which is propulsion. While this chain of events takes place on one leg, the other one swings and when it touches the floor there is a transitional phase of double support which is shorter the faster one walks. During the support and swing of the lower extremities, the body oscillates vertically and horizontally, accompanied by a torsion of the spine. The latter is the result of opposite rotations of the pelvic and shoulder girdles (2). These additional bodily movements help progression and give poise to the gait.

The pathological variations in the gait are many. Each is caused by the deficiency of one or more of the fundamental elements which make up the gait. These deficiencies are caused by pain, short leg, joint abnormalities, such as, contractures, ankylosis or static disalignment, primary muscular deficiency and amputation (3). Analyzing the various gait patterns that may result from these deficiencies one can readily see that there is overlapping. For example, contracture of the hip or knee will result in shortening of the limb. Nevertheless, each of these deficiencies will cause a basic peculiarity of gait, creating the principal gait abnormalities as follows:

1. Weight bearing intolerance dut to pain. The period of support on the affected leg is shortened for quick relief of pain and there is little or no deploy of the foot. This results in slow rhythm, forceful weight bearing on the unaffected side and asymmetrical horizontal pelvic oscillations.

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* Read at the Seventh Annual Conference of the Association for Physical and Mental Rehabilitation, Washington, D. C., July 23, 1953.

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Figure 1—Surgical fusion, right ankle, showing internal rotation of hip joint before taking step.

Figure 2—Same patient, showing the same abnormality in gait, using short leg brace, without ankle joint to safeguard the fusion awaiting solid healing.

2. Short leg. It causes a "dip" as it touches the ground, unless the length of the shorter leg is compensated by an equinus position of the foot. The abnormal drop of the pelvis will cause a greater oscillation of the shoulder to the opposite side. The muscle strength being unimpaired and joint range unrestricted, this gait is usually without significant expenditure of energy.
3. Joint restriction caused by contracture, ankylosis and static disalignment.

   Contracture of the hip up to 20-25° will be compensated for by increased lordosis of the lumbar spine. In addition to the short leg dip of the pelvis, there will be forward lunge in the standing phase and a backward thrust in the swinging phase, the lumbar spine changing constantly from kyphosis to lordosis (3).

   Contracture of the knee will allow normal swing but will interfere with propulsion which, however, can be partially compensated for by the gastrocnemius soleus muscle group with a more forceful equinus thrust. Hip ankylosis in extension forces the patient to pivot his body for propulsion. When the knee is fixed in extension, the hip is lifted higher or the limb is circumducted durng the swing phase. Ankylosis of the ankle in plantar flexion will cause a relative lengthening of the limb with difficulty to clear the floor. Ankylosis in dorsi-flexion will destroy the deploy of the foot. Surgical ankylosis which ordinarily stabilizes the ankle in neutral position, frequently causes inward rotation at the hip to improve the takeoff on the first toe. Figures 1 and 2 show this peculiar gait pattern in a patient who has recently been subjected to such a surgical procedure. It can be corrected by training.

The most frequent static disalignments that cause abnormal gait are congenital dislocation of the hip and coxa-vara. One finds relative insufficiency of the gluteal muscles due to de-

creased distance between origin and insertion caused by a decrease of the femoral angle. The gait is a waddle in both.

4. Paralytic gait. In orthopedic disabilities, this type of gait concerns primarily three groups of muscles, namely, the gluteals, quadriceps and triceps surae. Paralysis of the gluteus maximus causes lurching of the body backward to prevent jack-knifing by the line of gravity passing behind the joint. The trunk is held actively by the flexor muscles of the hip and passively by the ilio-femoral ligament. Paralysis of the gluteus medius would result in a drop of the pelvis on the sound side during weight bearing on the affected side. This in turn makes it necessary to tilt the body to the affected side for the swinging side of the pelvis to become elevated. If the defect is bilateral, the symmetrical waddle gait appears. This is illustrated in case of congenital dislocation. In quadricep paralysis, extension of the knee is realized by the gluteus maximus and gastrocnemius muscles aided also by gravity. When the gastrocnemius soleus is paralyzed the patient has no deploy of the foot during support and extension of the knee can no longer be aided from this end. When the quadriceps is also paralyzed, the body is more inclined forward in an attempt to keep the knee in extension.
5. The prosthetic gait. A below the knee amputee with a normal stump and well fitting prosthesis will have little disturbance of gait. Ambulation on rough terrain may cause difficulty due to lack of supination and pronation at the ankle. The above the knee amputee with a normally functioning stump and well fitting prosthesis may experience a feeling of instability at the knee during the restraining phase of support by the line of gravity falling behind it. Thus, he may shorten the step of the prosthesis bearing leg. Some say (4) that the amputee will lengthen the stride with the prosthesis because it is completely extended in the forward walking position, whereas, the normal knee is slightly flexed. All in all, the amputee must be taught equal rhythm, and length of step, feet to be placed close together and close to the ground. Ill fitting prosthesis and painful stump with contracture may mimic most all of the gait variations discussed throughout this paper, and the laws or normal and abnormal gait mechanics, that have been described, are applicable to the amputee. In addition, there is lack of proprioception with resultant fear from falling and sense of unbalance. To overcome this feeling, the amputee will have a tendency to walk with his feet apart. This will have to be corrected by training.

DISCUSSION

On a superficial analysis, a practitioner of medicine may be bewildered by the seemingly endless variety of gait abnormalities he may encounter in treating orthopedic disabilities. However, a closer scrutinity of these problems reveals that there is a system in these variations. Gait problems of such widely different entities as fractures, arthritis, amputation, or paralysis of certain muscle groups may bring about similar mechanical deficiencies in the gait and the correctional measures can be undertaken following the same principles. As an illustration, a patient with flexion contracture of the knee will display the same variation of gait mechanics being faced with the same problems of management regardless of the cause. Another example is the amputee with an ill-fitting prosthesis bucket slipping up and down or a patient with plantar flexion contracture at the ankle. Both will have to lift the leg higher in the knee to overcome the relative lengthening of the limb.

Knowing the mechanics of normal gait and the pathological variations caused by the deficiency of a few fundamental elements, namely, muscle strength (and tone), joint range and proprioception, one should be able to tackle the problems of correction without undue difficulty.

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ACKNOWLEDGMENT:

The author is grateful to Mr. Harold C. Baitz of the Medical Illustration Laboratory for the photographs.

"Work hard, listen hard, suspect all abstractions, develop a talent for detecting falsehood and a love for knowing and speaking the truth."

(From "This I Believe", Edward R. Murrow, quoting Dr. Harold Taylor, President of Sarah Lawrence College.)

WEIGHT LIFTING

PETER V. KARPOVICH, M.D.*

Probably few physical activities have been praised and damned as much as weight lifting. It has been said that this sport is responsible for many serious bodily injuries, including those to the heart. It has been said that weight lifting makes participants "muscle bound" and reduces their proficiency in other physical activities. It has been said that weight lifters are egocentric exhibitionists, with homosexual tendencies. When, however, one starts searching scientific literature for a basis for all these accusations, one will soon discover that the evidence is either lacking or inconclusive.

As to *injuries*; Rudd[1] investigated the problem of injuries among weight lifters in the Boston area and found that neither orthopedic surgeons nor cardiologists had any material, in their files, pointing to the harmfulness of this sport. Karpovich[2] collected information on 31,702 weight lifters, and found that they were much healthier than the average population. Just to cite two illustrations: A selective service examination[3] had revealed that there were 64.4 cases of hernia and 30.6 cases of hemorrhoids per one thousand men. The weight lifters in Karpovich's study had only 1.6 cases of hernia and 6 cases of hemorrhoids per *ten thousand* men. Furthermore, no cases of injured heart were observed or reported in this very large group.

As to the muscle-boundness of weight lifters, one should probably differentiate between fat, strong men and lean, well trained men. Men like Davis and Grimek had, still have, amazingly supple joints. Tests[4] conducted on 300 weight lifters, of the champion class, showed that they could perform rotary movements with their arms faster than non-weight lifters. Chui[5] and Capen [6] demonstrated experimentally that training in weight lifting caused an improvement in scores obtained not only in tests of strength and endurance but also of speed.

The accusation that weight lifters are egocentric and exhibitionistic is undoubtedly true. This, however, should be expected. A weight lifter has to concentrate on himself in order to obtain the desired improvement in his physique. And he is proud to exhibit his attainment. One cannot deny that a well developed, muscular body is beautiful and has inspired many wonderful sculptures.

What about overdeveloped muscles? It is true that there is no particular need for them, but on the other hand, there is no particular harm in having them. We do not criticize a man who wants to run a mile in four minutes, or to pole vault sixteen feet. Most of us commend these attempts, although some put them in the same class as oversized muscles and call them all follies.

Now about homosexual tendencies among weight lifters: A study was conducted on twenty weight lifters, sixteen of whom belonged to one club[7]. It was reported that these men differed from non-weight lifters by evidencing a greater feeling of masculine inadequacy and showing greater concern over becoming more masculine, by hating their mothers more, and by having more homosexual impulses. It should be added here that one of the criteria of homosexuality evidently accepted by the investigator was "a search for as much maleness as possible." Is this a true criterion?

Those of us who have worked with groups of one sex are aware of the fact that not only potential but active homosexualists may be found there. A great injustice will be done, however, if conclusions derived from an investigation of a small group are extended to many thousands of men engaged in weight lifting. For every male who may be looking to weight lifting as a means of escaping fgrom his sexual inadequacy by developing his physique, there must be many thousands who take part in this activity just for the fun of becoming physically stronger persons.

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"From Other Journals"

MICHAEL M. DACSO, "Clinical Problems of Geriatric Rehabilitation." *Geriatrics*, 8:179-185, April, 1953.

Medical and surgical correction alone is inadequate to lead victims of disabling diseases back to a normal, self-sufficinet life. Mental, social and vocational problems are becoming the concern of the physician.

Slightly more than one million people in the U. S. suffer from hemiplegia. It is essential that rehabilitation be started as early as possible. Predominance of flexor tone may produce flexion deformities which eventually lead to subluxation or even luxation. Early introduction of suitable exercises and muscle strengthing is indicated. The unafflicted side should receive just as much attention as the afflicted side. A disturbance in the body image (a person's picture of his own body in his own mind) is an unfavorable prognostic sign. In a small group of hemiplegics instability of the shoulder and hip joints is prominent. In such cases special exercises to improve the strength and tone of the afflicted muscles are indicated.

In osteoarthritis it is of great importance to correct the disturbed body mechanism. Surgical correction rarely brings good results, as an operation changes the entire body mechanism, particularly the static condition of the lower spine and pelvis. Every effort must be made to restore the functional integrity of the joints and muscles.

Approximately 80% of all hip fractures occur in the 60-plus age group and of these about 80-85% are women. In cases of firm pinning, with no surgical contraindication, we introduce graded, limited weight bearing exercises as early as three weeks postoperatively. If ischial weight bearing braces are not used, a special limited weight bearing gait is taught. Preceding this, in the first three weeks active, passive and resistive exercises are practiced to maintain the function of the unafflicted peripheral joints and muscles. With patients who do not develop a bony union, we start with standing, balancing and walking in parallel bars. After some improvement has been achieved, patients are allowed to go through the same routine outside of parallel bars with the aid of crutches. After varying lengths of time most of these patients can discard the crutches and use canes. At this phase of training we use Peszizynzki's intermittent, double step, gait pattern.

With elderly amputees general conditioning exercises have to be instituted long before artificial limbs are provided.

PJR

ALADAR FARKAS, "Rehabilitation in Malum Coxae Senilis," *Geriatrics*, 8:204-214, April, 1953.

The surgical approach to the problem of malum coxae senilis could hardly fulfill the hopes pinned on it. The worst looking osteoarthritic joint is superior to its smoothes looking substitution. The deformity consists mainly of subluxation with the greater trochanter riding high and with contracture. Limping follows the sublaxation since the gluteus medium becomes unable to achieve proper elevation of the pelvis and the contracture prevents true elevation of the swinging side of the pelvis.

An elastic, laceable brace was constructed to support the pelvis and thigh, strengthened by a strong elastic strap inserted on the back of the appliance to assist the muscles in their extension efforts. A flexor strap supports the ileopsoas, whose spasm and weakness is frequently one of the main sources of pain and disability. Disappearance of the lumbar curve with formation of lumbar kyphosis is regarded as one of the chief factors leading to sciatica and allied conditions. To restore the lumbar curve the foot of the bed was elevated about 4 inches. In this position the spine is situated below the hip, gradually forcing the joint into extension, which relieves the flexion contracture. Daily exercise consisting of leg raising in both prone and supine positions with the knees straight, and *abduction-adduction or internal and external rotation*, two or three times daily restors as much mobility as is compatible with the subluxated joint. Arch supports and built-up shoes complement the treatment to alleviate weight-bearing. They are indispensable because the entire system of the lower extremity has to be looked upon as a functional unity requiring utmost consideration.

Synovial fluid is not a steady stream. Lubrication of a joint probably is accelerated chiefly by muscular activity. Without extensive joint function, *preferably of the active variety*, both the lubrication and the nutrition of the joint becomes deficient. During weight bearing joint space completely disappears; there is not even a slit conceivable through which frictionless gliding could take place. The joint during function is not a geometrical space; Fisk remarks that "we must look upon the joint simply as a biochemical interruption in the skeleton." What this involves has to be established through further research.

During locomotion active elevation of the pelvis above the horizontal becomes difficult even in healthy individuals from their late fifties on. In consequence bending stresses emerge at the hip, perhaps paving the way for the intrascapsular fractrue of the femoral neck. Formerly, the hip was subjected to compression forces almost exclusively. With increasing age the head of the femur becomes more and more deeply inserted in the socket. It appears probable that these factors play an important role in the development of malum coxae senilis.

PJR

MURRAY B. FERDERBER, ALFRED C. KRAFT, and GERALD P. HAMMILL, "Physical Restoration of the Chronically Ill and Aged," *Geriatrics*, 8:186-197, April, 1953.

Personnel of the Allegheny County Institution District recognized the need for a dynamic and effective program directed toward the convalescence of patients who have survived acute diseases or who have developed excessive invalidism as a result of chronic illness. A gymnasium and therapy rooms were installed. Of 608 patients participating, approximately 80% showed some objective measure of improvement. Many were unable to become self-supporting, but once a disabled patient is retrained to care for his basic needs, his family is usually willing to welcome him home. No patient expired or regressed as a result of activation.

Of prime importance is the necessity to judge clinically the earliest possible time for activity. Only a few disorders preclude physical reconditioning while bed ridden. When the individual can tolerate sitting in a chair, he is taken to the clinic twice daily.

The usual history of amputees is that the patient *never learned to use his artificial limb properly* and eventually regressed to dependency upon crutches or a wheelchair. The physician must assume the responsibility for gait training. Whether the amputation is new or old, the patient is given physical reconditioning.

It is not inferred that restorative techniques are a cure for the arthritic, but this therapy is a useful adjunct to all presently-recognized treatments. The degree of invalidism is greatly increased by psychosomatic influence, general bodily deterioration, and loss of muscle power and mass action. Procedure was aimed at the relief of these factors.

With cerebral vascular patients, all joints are gently taken through their full functional range each day. No further breakdowns were experienced as a result of therapy. *Above all these patients need at least a spark of courage.* The success of rehabilitation was determined by the ratio at which the patient acquired personal responsibility. People in all walks of life subject themselves to physical danger many times during the average day; rehabilitation, although it may present some degree of danger even under controled conditions, has the distinct possibility of rendering the individual much more useful to himself and society. Following admission of a hemiplegic to the hospital, physical restoration begins immediately after evaluation by the staff physician.

PJR

MARJORY W. WARREN, "Retraining the Elderly Hemiplegic," *Geriatrics*, 8:198-203, April, 1953.

Hemiplegic patients present difficult and heavy nursing cases, but continue to live on for many years. It is more commonly found in the upper age group. As soon as the patient is seen he should be assured he will have full continued treatment. His morale should be built up and he should be encouraged in every possible way.

The position of the limbs must be observed to avoid deformities. Movements of all joints, especially of the shoulder, must be undertaken actively or passively to avoid contractures and stiffness. A patient should never have anything done for

him in the way of self care that he can do for himself. The patient should never be touched or handled unless it is absolutely necessary. They must learn to use rails, crutches, poles and multi-legged sticks and not to lean on people. Patients should be encouraged to move their limbs as soon as power returns. Trunk excersises may be aided by use of a rope pulley attached to the bed end. As soon as the patient is fit to increase his exercise he should dress and lie on the outside of the bed. At this stage an overhead beam or a Guthrie-Smith frame with slings and springs may prove useful. The patient must now learn to stand unaided from a sitting position. If he cannot learn to do this, he cannot learn to walk. When he can stand he learns to walk by holding on to the rail at the foot of the bed. From the rail he should be weaned to the use of a three-legged stick and later an ordinary stick.

PJR

LEO BERNER and ARTHUR TAUBER, "Physical Education in Medical practice," *Journal of The American Association for Health, Physical Education and Recreation*, 24:9, Nov., 1953.

This interesting and informative article, presents a very comprehensive orientation of the work and objectives of the Corrective Therapist.

It depicts the role of the physical educator in the reconditioning program as carried out in the Veterans Administration Hospitals.

The Remedial Gymnasts in England have also been recruited from the ranks of the physical educator and are offering graduate courses in exercise therapy similar to those now being developed in our own Universities and Colleges.

The application of active exercise to individuals and groups, is rapidly becoming recognized by the medical profession as an effective therpeutic and socializing media in restorative medicine.

ROBERT S. SCHWAB and THOMAS DE LORME, "Psychiatric Findings in Fatigue," *The American Journal of Psychiatry*, 109:621-625, February, 1953.

"Fatigue" includes both muscular impairment and the subjective awareness of tiredness. The two are very different. Muscular impairment with abnormal fatigue curves will be found in the neurological diseases of the muscles, nerves and brain. It will not be found in normal, healthy people and probably not in nervous people who complain of fatigue. The feeling of tiredness in such people is due to emotional and situational problems connected with their lives and stresses therein. The location of this fatigue is in the brain. The prescribing of muscular rest with the idea that the muscles are at fault is a waste of time.

(Continued on Page 26)

PJR

Editorials

GERIATRIC REHABILITATION: THE CONTRIBUTION OF CORRECTIVE THERAPY

Our goal should not be a thoughtless acceptance of the defeatist's point of view. We can expect people to grow old and eventually become totally dependent, but we can encourage the acceptance of a point of view which enables us to attempt maximum restoration of physical efficiency and health maintenance as both practical and desirable, in all but a small percentage of cases. Recent reports of successful rehabilitation of many old folk seem to justify such a conclusion.

When we accept this point of view, it is essential that the full meaning of the team concept of rehabilitation be accepted. The physician, nurse, social worker, vocational counselor, psychiatrist and the physiatrist with his staff of ancillary therapists, must all work in close cooperation, if the restoration of the elderly to some form of independence is to result.

By 1980, from one half to one third of the population will be over 60. It has been estimated that 121 of every 1000 persons are now suffering from chronic disability; one third of this group being totally disabled. These statistics lead us to ask, "How is the working population going to continue to maintain this high percentage of convalescence and retirement?" This situation poses a major sociological and economic problem. One answer may be found in increasing the retirement age to 65 or 70. Another, may be to abolish any set age limit and base retirement upon the capacity of the individual to produce an acceptable amount of work accurately performed.

Mrs. Oveta Culp Hobby recently reported that 12,000 people who had been on relief, at a cost of $8,500,000 were rehabilitated and put back to work at a cost of $6,000,000. Now, these people are supporting themselves and earning $22,000,000. Mrs. Hobby says she and the members of her department have dedicated themselves to rehabilitating more thousands of these people. This statement indicates the concern of the Department of Health, Welfare and Education on a nationwide basis. What can we do on the community level?

A possible solution is the diverting of some of the federal funds now being spent on the overlapping welfare programs into the development of adequate rehabilitation centers on the local community level.

It is generally accepted that muscoloskeletal inadequacy and failure present a very common problem. Pain, progressive generalized muscular weakness, lack of functional efficiency of the other systems of the body; limitation of locomotion and joint range, all limit the activities of the aged. One of the common causes of this musculoskeletal inadequacy is osteoarthritis, frequently called the "wear and tear" arthritis. Muscular atrophies, poliomyelitis, paraplegia, hemiplegia are all contributing to the problem.

Treatment of musculoskeletal inadequacies is dependent upon rest, relief of pain, prevention of deformities and wholesome but tolerated activity. That part of the rehabilitation program related to rest, the prevention of deformities and the reduction of pain, is the function of medicine, surgery and nursing care. Regaining a feeling of security in the future is the contribution of the social worker and psychiatrist

or the psychiatric social worker with the help of the vocational rehabilitation specialist. It is the Corrective Therapist who is equipped to provide the exercise and activity phase of the program.

The Corrective Therapist has found the proper dosage of active and resistive exercise extremely effective in strengthening muscles and increasing their endurance and coordination. To a large extent this is dependent upon the interest of the patient in his own improvement as well as the capacity of the therapist to secure the necessary motivation.

It has been generally accepted that pain or soreness resulting from activity which lasts longer than one hour after exercise indicates overactivity, and the amount and type of activity given must be determined by the intelligent use of this criterion. The Corrective Therapist offers not only physical activity for physiological benefits, but he also teaches the "home folks" who will be responsible for the patient's care, how to assist the patient in retaining the independence he has acquired during his rehabilitation.

The self care activities performed by the Corrective Therapist are of an intimate personal nature. These elderly folk do not want to place any unnecessary burdens on the "home folks" and become very grateful when shown the way to overcome their handicap and perform the activities of daily living without help.

The contribution of the Corrective Therapist to geriatric rehabilitation is now in a state of successful experimentation. Many geriatric programs are in operation in hospitals with domiciliary facilities. Much study is being given to the problem, but the awakening of each community to its responsibility for providing facilities by establishing community rehabilitation centers is a problem far from being solved on the community level.

THE CERTIFICATION OF CORRECTIVE THERAPISTS

The Association for Physical and Mental Rehabilitation has taken a forward and progressive step toward raising the professional standards of the corrective therapist by adopting the plan for certification presented before the Representative Assembly of the organization at the Washington convention in July, 1953. The association, which has been striving for recognition and supervision from higher authority for several years, has undertaken this step primarily because it believes that some form of regulatory mechanism, such as is commonly embodied by certification or registration of qualified personnel, is necessary to give the profession the status and dignity which is now accorded to but a few groups in the ancillary medical services.

Since World War II, Corrective Therapy as an integral part of the rehabilitation process has won wide acceptance in its broad application to the treatment needs of the physically disabled and mentally ill. There has been a concomitant increase in the number of corrective therapists employed in government and other public institutions, private hospitals, and rehabilitation clinics.

As corrective therapy has expanded and grown, numerous colleges and universities offering the major in Health and Physical Education have added special courses in correctives and in physical education for the handicapped in an effort to adequately prepare the student for work in the area of corrective therapy. Some of these courses have been offered completely on the undergraduate level; some exclusively on the graduate level while others represent more or less of a compromise between the two schools of thought. The association has made no attempt to resolve these differences of opinion in its plan for certification. Instead, it has offered a core curriculum and definite training requisites which it considers essential for adequate preparation for entry into the corrective therapy profession. There has been no stipulation regarding the college level at which these courses are to be offered nor are college degrees above the Bachelor's level a requirement for certification. However, it is hoped that those colleges and universities interested in preparing young men and women for the corrective therapy field become cognizant of the certification requirements of the association and use these standards as guides in order that their students may be certified immediately after matriculation.

In order that persons already in the field of corrective therapy be allowed an opportunity to certify, the association has granted a waiver of certain of its eligibility requirements for a stipulated period of time. Members who have not received information relative to this clause and who have not received official application blanks should contact the secretary of the board, Mr. Thomas J. Fleming, Box 178, Montrose, N. Y. as soon as possible.

The association has been most fortunate in securing the services of several outstanding authorities in the fields of medicine and related professions to sit on its certification board. However, the organization is not attempting to arrogate responsibility for the certification of corrective therapists and it continues to hold to its premise that established medical authority should rightfully administer the education and training of all persons in the medical rehabilitation field.

RESEARCH

(Editor's Note: This page will be devoted to keeping our readers informed on contemporary research in allied fields of rehabilitation, and to stimulating research in *Corrective Therapy*. As indicated in the report of the RESEARCH COMMITTEE, (7:185, Sept. '53) clinical research will be used extensively. There is much of this type being carried on. It should be reported, no matter what the status of the findings. Publication of the progress of *your* study will take precedence over the reporting of contemporary research in other fields. Send your report in a fifty (50) word statement to: SAM BURCHART, C.T. Section, McGuire V. A. Hospital, Richmond, Va., in time for him to edit it, so that dead lines of the 15th of February; April; June; August; October and December will be met, to keep this column up to date, informative and professionally stimulating.)

RESEARCH is part of the Corrective Therapist's responsibility. It is realized that some individuals seem to be more "research-minded" than others. The OTHERS, however, may have more research potential than they realize, which for one reason or another has not been stimulated or developed.

It is the purpose of this article to present a hypothetical conversation between an inquiring corrective therapist and a research counselor*, discussing some of the aspects to be considered in planning a research project.

PART I—INTRODUCTION AND ORIENTATION

Q. *How can I contribute to the advancement and Professional standing of corrective therapy?*

A. By organizing clinical experiences into useable data and utilizing these data for further refinement of the work.

Q. *I realize this information should be compiled and presented and organized in written form. However, I am in somewhat of a quandary as to the best way to present this material. Have you any suggestions?*

A. Yes, I have some suggestions and I am sure that the organization of clinical experiences would prove a valuable source of information. There are several methods that can be used.

Q. *Would you give me an outline of some of these methods?*

A. Either one of two general methods is usually employed in most research. One method is to formulate a question and predict an answer to it, and then set up an experimental situation which will indicate whether your predicted answer was correct or not. (This is the method of setting up a hypothesis and testing it.) The other method is to collect the data in an experimental situation without any pre-conceived 'hunches" as to the outcome, and then analyze the data thoroughly with a view to highlighting any trends which may, on further investigation, prove to be of significance. (This may be called the impirical method.)

Q. *What kind of statistics do I need to go with this work?*

A. This varies with the nature of the study, and can range from very simple to very complex statistical procedures.

Q. *Can you give me a brief idea of the nature of statistical procedures?*

A. In a broad way, statistics involve a quantitative treatment of the things under observation which will make an interpretation of the meaning easier and more objective. Statistical procedures may assume two main phases; first we may classify or put into categories the various observations made; second, we may attempt to derive some meaning and significance from the categories or classifications. All too frequently, research workers stop at the first phase, and the danger in this is that we may either overstep our bounds in what we can rightfully assert about the results, or conversely we may be too conservative and fail to detect some significant relationships that actually lie buried in our numerical scores.

By converting our observations to quantitative measures, it is easier for other workers to reproduce or repeat our experimental studies. In this way increased knowledge can be more readily spread to others who share our interests in a particular field of endeavor.

PART II—"METHODS OF STATING THE PROBLEM AND DESIGNING THE EXPERIMENT" and PART III—"METHODS OF PROCEDURE, and ANALYZING, PRESENTING AND EVALUATING THE DATA" will appear in subsequent issues of this Journal.

CORRECTIVE THERAPY IN THE SURGICAL KNEE

A report in research on "Corrective Therapy in the Surgical Knee", Thomas S. Robertson, M. D., Chief, Orthopedic Service, and John M. Hawk, Chief, Corrective Therapy, Veterans Administration Center, Jackson, Mississippi, appeared in the September-October 1952 issue of *The Journal of the Association for Physical and Mental Rehabilitation*. Reference is made to the above article which represents a study

of 81 knee cases which came to surgery. Research is continuing on this subject and will continue until a study has been made of 100 or more menisci cases, the predominating type, when another report will be made.

It is felt that through these cases exercise techniques will be improved, length of hospitalization lessened, and better end results will be accomplished. 30 knee cases have come to surgery since the last report, making a total of 111 knee studies.

A breakdown of the 30 cases not yet reported is as follows:

FUNCTIONAL END RESULTS

Type of Case		*Good*	*Fair*	*Poor*
Ruptured Menisci	20	14- 70%	5- 25%	1- 5%
Ligament Repair	1	0- 0%	0- 0%	1-100%
Fractured Patella	2	1- 50%	1- 50%	0- 0%
Osteochondroma	3	3-100%	0- 0%	0- 0%
Chronic Synovitis	2	1- 50%	1- 50%	0- 0%
Baker's Cyst	1	1-100%	0- 0%	1- 0%
Foreign Body	1	0- 0%	1-100%	1- 0%
Total	30	20-66⅔%	8-26⅔%	2-6⅔%

DAYS OF HOSPITALIZATION

		7-14 *days*	15-21 *days*	22-30 *days*
Ruptured Menisci	20	8- 40 %	10- 50 %	2- 10 %
Ligament Repair	1	0- 0 %	0- 0 %	1-100 %
Fractured Patella	2	0- 0 %	1- 50 %	1- 50 %
Osteochondroma	3	1- 33⅓%	1- 33⅓%	1- 33⅓%
Chronic Synovitis	2	0- 0 %	0- 0 %	2-100 %
Baker's Cyst	1	1-100 %	1- 0 %	0- 0 %
Foreign Body	1	1-100 %	0- 0 %	0- 0 %

CONCLUSION:

Reference is made to above-mentioned, "Corrective Therapy in the Surgical Knee". The study to date of the 20 predominating menisci cases not yet reported as to number of hospitalization days in the 7-14 day group, is running about the same as previously reported. There is an increase of patients in the 15-21 day group, and a marked decrease of patients in the 22-30 day group. The end results of the 20 menisci cases show an increasing number of patients in the *good* category, a decrease of *fair* results, and the *poor* category is running about the same as previously reported.

We find that out of 64 menisci, 26 have left the hospital within 7-14 days for a percentage of 40.6%; 24 within 15-21 days for a percentage of 37.5%, an increase of 5.7% in this category; and 14 within 22-30 days, for a percentage of 21.9%, a decrease of 5.4%, which indicates that the percentage of patients discharged from hospital within 7-14 days remains about the same, with more patients beginning to fall into the 15-21 day group, and fewer patient hospitalization days for the 22-30 day group.

We find as to end results that 42 patients, or 65.7%, had good results, an increase of 2.1% since last report; 20 patients had fair results, with a percentage of 31.2%, a decrease of 2.9% in this category; 2 patients, poor results, for a 3.1% average, about the same as previously reported.

Book Reviews

A SOCIAL PROGRAM FOR OLDER PEOPLE, by Jerome Kaplan, Minneapolis: The University of Minnesota Press, 1953. 158 pp. $3.00.

RECEPTION FOR THE AGING, by Arthur Williams, New York: Association Press, 1953. 192 pp. $3.00.

In a recent study it was found that the average life span from 1900 to the present time has increased from about 49 years to 68 years. The American population ratio of those over 65 years of age has increased from 1 out of 25 persons in 1900 to an estimated 1 out of 10 persons by 1980. Almost half of the American population is expected to be over 45 years of age by 1980.

These figures lead us to the question as to what is to be done for this tremendously increasing number of American citizens. The search for solutions to this problem began gaining impetus just prior to World War II. Now, after approximately 15 years of experimentation, many substantial facts and theories have been revealed.

Jerome Kaplan attempts in his book to provide some of the answers to this problem from the Social Group Workers point of view. He records data from his experiences in this field with the Hennepin County Welfare Board in Minneapolis. Mr. Kaplan discusses the role and training of the group worker and volunteer in their relationship with the "Senior Citizens." He gives a detailed system for organizing the aged into groups, with techniques for increasing individual participation. He also reproduces numerous verbatim reports of incidents occurring particularly in the Minneapolis area.

Arthur Williams, of the National Recreation Association, has amassed through a national survey "of many agencies and individual leaders of old age programs" a comprehensive activity handbook for leaders working with the aging. He gives practical information, with emphasis on programming, for recreational work for the 60 years plus adults in the areas of the club, the center, camp, church, rural community, business, industry and labor. This intensive survey has resulted in the presentation of dynamic examples of programs being carried on throughout the nation.

Both books are easily read and contain a multitude of invaluable material which should do much to help eliminate the hardships of the trial and error method for new organizations interested in inaugurating social and recreational programs for our aging citizens.

HJB

TODAY'S REVOLUTION IN WEATHER, by William J. Baxter, New York: International Economic Research Bureau, 1953. 131 pp. $1.00 (Paper)

It is Mr. Baxter's thesis that "the heat zone of the world is moving northward at an accelerated rate." The result will be great changes in world economics. Scanty crops will be the normal state of affairs in our Southwest, India and China. Melting of the polar ice has raised sea and some lake levels, with resulting damage from storm and floodings on the coasts, but our Southwest, Brazil and Africa are suffering from great droughts. In the United States the population will move west and north. Western Canada and Manchuria will become the favored sections of the world. The population of much of the United States will become more nervous, smaller, less energetic and less healthy. The fact that this booklet is deliberately written in a popular style and lavishly illustrated by Partch's humorous cartoons should not be permitted to obscure the importance of its message. Prophecy is a precarious profession, but the author's sources and his deductions therefrom compel respect. Any Corrective Therapist contemplating relocating, going into business or making financial investments would do well to first consider the material presented in this booklet.

PJR

OUT OF THIS WORLD, by Helen Worden Erskine, New York: G. P. Putnam's Sons, 1953. 300 pp. $3.75.

Mrs. Erskine's long time hobby has been the study of recluses, people who for one reason or another have chosen to withdraw from society. *Out Of This World* relates the story of many

of these hermits, at least so far as she has been able to unravel it. This is not a scholarly study of the type of Dingwall's books. Mrs. Erskine's curiosity is tempered by considerable affection for her subjects and her style has probably been influenced by the fact that most of the chapters seem to have been originally prepared for newspaper publication. Many of her own conclusions are supplemented by the opinions of a psychiatrist. Over and over the same pattern emerges—fear, inability to make decisions and lack of strong sexual drives seem to characterize these people. There is no lack of intelligence and many of them are wealthy. Mrs. Erskine is convinced that most of these hermits are victims of their monther's possessiveness or domination. *Out Of This World* is a well written presentation of fascinating material. It does much to illuminate a segment of the "lunatic fringe" as seen by an intelligent and sensitive layman.

PJR

LIVING WITH A DISABILITY, by Howard A. Rusk, M.O., and Eugene J. Taylor, in collaboration with Muriel Zimmerman, O. T. R., and Julia Judson, M. S. Illustrated. 207 pp. New York: Doubleday & Co. $4.

The ultimate goal of every handicapped person is to become independent. At first he may be discouraged and feel "I cannot do it." But practice helps and he gradually learns to compensate for lost functions. Many disabling conditions, however, are so severe that some help is needed. The patient has to decide whether to rely on another person and remain dependent or to use some kind of mechanical aid which will permit final independence.

To find suitable self-help devices and gadgets that might help disabled persons in the performance of their daily activities is very difficult for an individual patient as well as for the rehabilitation worker. Often much time is wasted in developing aids which already have been tested and perfected elsewhere. Therefore, the institute of Physical Medicine and Rehabilitation of New York University- Bellevue Medical Center undertook two research projects to review all existing devices, test them clinically, design and develop new devises, determine methods requiring the least expenditure of energy and make the accumulated information generally available.

Medical libraries, hospitals, rehabilitation centers, the United States Patent Office, periodicals, shops and mail order catalogues were searched and the suggestions of individual patients, physicians and rehabilitation workers utilized and evaluated. The results of these extensive studies are compiled in this book by Howard Rusk—an associate editor of THE NEW YORK TIMES who is director of the Institute of Physical Medicine and Rehabilitation and an international authority in this field—aided by his co-workers.

This comprehensive book considers every need from holding a pen to planning and building a home or adjusting an available apartment to meet the problems of specific handicaps. It contains nearly 300 instructive illustrations.

It should be an invaluable aid to the millions of disabled people and help them to achieve greater independence, efficiency, happiness and comfort.

How much can be accomplished by modern rehabilitation is well illustrated by the story of a young lawyer who was admitted to the Institute of Physical Medicine and Rehabilitation at Bellevue Hospital in 1946: "Paralyzed in all four extremities and the abdominal muscles as a result of poliomyelitis in 1940, this man was entirely helpless. His physical capacities were limited to the ability to grasp to some extent with his hands and to move his fingers partially.

"Although little could be done for this man in the way of physical restoration, his vision, speech and mental ability were not affected.*** With a cockup splint for the wrist and a rotary splint for the forarm, he was taught to feed himself. With a toggle switch on a French-type telephone mounted on a stand, he could signal the operator and thereby communicate by telephone. He learned to type with a remote-control electric typewriter that could be operated with a minimum of strength and motion. For greater efficiency tody, however, he dictates his letters into a lapel microphone.*** In just one year after his admission to Bellevue Hospital this man has moved to an apartment in mid-Manhattan, where he has been succesfully practicing law since."

(New York Times, Sunday Edition. Sept. 20, 1953, Book Review Section).

THE SCIENTIFIC BASES OF PHYSICAL EDUCATION, from Mrs. Ruth W. Fink, Dir. of Physical Education for Women, University of North Carolina, 50c, 22 pp., Mimeographed.

This pamphlet is a summary of the First Summer Workshop of the Southern Association for Physical Education of College Women. With the aid of consultants Dr. Augustus T. Miller, Jr. and Dr. Emma McCloy Layman, the workshop attempted to relate masic principles in physicology, kinesiology and psychology to physical education. The percentage of space given over to psychology is unusually large and will be of particular interest to Corrective Therapists serving in neuropsychiatric hospitals.

PJR

FROM OTHER JOURNALS (Cont. from p. 22)

ARTHUR S. ABRAMSON, M.D. and ALFRED EBEL, M.D., "Rehabilitation in the Management of Prolonged Illness," *Medical Clinics of North America*, May 1953. Vol. 37, No. 3, pp 915-932.

This paper is part of a symposium on prolonged illness that appeared in the New York Number of the publication noted above. The symposium covers specific chronic disease entities as well as the general subject of long-term illness. It is, therefore, of value to those with widely varying interests in the problem.

Doctors Abramson and Ebel make a noteworthy contribution, emphasizing the important considerations that must enter almost any discussion of rehabilitation of the chronically ill patient. Their presentation very logically opens with the preliminary steps to be taken in the management of such a patient: (1) establishing the diagnosis (2) prognostication as to whether or not the condition is stationary, progressive or likely to improve (3) ascertaining the degree of disability that exists by means of muscle testing, electrical and other modalites, and finally, (4) psycho-social evaluation. Quite properly they suggest that one can often achieve a better understanding of the patient by noting his response to a short period of treatment.

With the preliminary steps completed a therapeutic program is formulated. This may include coordination and strengthening exercises, obtaining and maintaining optimal joint range, ambulation and activities of daily living. Braces, prostheses and other assistive devices are prescribed when necessary. Vocational and pre-vocational exploration are undertaken. Post-hospital planning is carried out by contact with the family and community resources.

The deleterious effects of inactivity, which can be prevented by exercise and weight bearing, are chiefly muscle atrophy, osteoporosis, contractures and venous thrombosis. The close relationship between level of activity of the organism and protein and calcium metabolism is well described.

Since the principles of rehabilitation can be applied to various diseases, the authors have chosen to illustrate the application of these principles in the management of the paraplegic. With proper care many complications can be avoided. Sudden and acute injury to the spinal cord is followed by a stress period of spinal shock which is characterized by flaccid paralysis, bladder atonicity and malnutrition. This lasts from a few days to about six or eight months and is due to the marked change in the level of activity of the patient. Complications frequently occur at this time. The pros and cons of laminectomy are discussed succinctly and clearly. Factors predisposing to malnutrition are: anorexia, disuse (of normally innervated parts), paralysis, absence of weight bearing, decubitus ulcers and fever. To combat these factors a therapeutic regimen is suggested.

The last portion of the article is devoted to an excellent presentation on the management of the post-shock period. It covers such subjects as: pressure sores, paralyses and spasticity, bladder and bowel training, control of pain, exercises, traveling, ambulation, surgery, development of substitutive function and mental, social and vocational adaptations.

In their concluding remarks the authors stress the importance of teamwork, which implies not only cooperation, but effective coordination, as well. Their final words warrant repetition: "Nor is the hospital or rehabilitation center an end in itself. Without the aid and close cooperation of the community, industry, welfare and other social agencies, the hospital team would frequently find it difficult to carry its goal to successful completion. It is in this broad concept of considering the patient, his illness and his entire social, vocational and emotional environment that rehabilitation has made a definite contribution to the practice of medicine."

Frederick J. Balsam, M.D.

Chapter Activities

EASTERN STATES' CHAPTER

1953 Chapter Hi-Lites

Mrs. Eleanor B. Stone took office as president. Her message, praising the fine unselfish performance of Corrective Therapists and the job that remains to be done in the field of rehabilitation, appeared in the first issue of the Chapter Newsletter.

The Chapter membership voted to withdraw from the New York State Chapter and rename itself, The Eastern States' Chapter.

The Chapter's presentation of an Educational Clinical Session was held at the Institute of Physical Medicine and Rehabilitation, where Kurt Janssen, Chief of the United Nations Rehabilitation Unit discussed the "Current Plans of the United Nations in Rehabilitation." Dr. Josephine L. Rathbone, Columbia University, spoke on, "The Progress of Rehabilitation in India," and Dr. William Bierman, Chief Physical Medicine and Rehabilitation at Mt. Sinai Hospital, was the Chairman of the meeting.

The Chapter was represented at the Eastern Districts' Association for Physical Education and Recreation Convention in Pittsburgh by our president Mrs. E. B. Stone, who delivered an address before the "Body Mechanics Section" on the "Role of Corrective Therapy in the Schools."

Our Chapter members distinguished themselves as active participants in the scientific and business sessions at the National Association's Convention in Washington, D. C.

The plan to certify Corrective Therapists, that was approved by the Representative Assembly at the Washington, D. C. convention, got under way with our members heading the drive.

On Friday, November 20th, a Scientific and Clinical Session was held at the Institute of Physical Medicine and Rehabilitation, 400 East 34th Street, New York, N. Y. The theme of the conference was "Rehabilitation of the Aged." C. Ward Crampton, M.D., Chairman of the Geriatrics Committee of the Medical Society of New York City served as Chairman of the meeting. The program offered two presentations, one on "Chronic Disease and Ageing," By Hans J. Behrend, M.D. President of the New York Society of Physical Medicine; the other—"Rehabilitation of the Older Worker," by Martin Gumpert, M.D. Leo Berner writes: "An interesting and informative discussion followed. We need more meetings of this type."

Business Meeting, Oct. 9, 1953.

The meeting was called to order by President Stone, who reported that the Executive Board meeting that was scheduled for August 7, 1953, was cancelled because of the illness of Miss Lanna and herself.

Reports on the highlights of the National Convention were made by several members. They all agreed that the panels were excellent and well attended. The Chapter congratulated the members of our Chapter who distinguished themselves by presenting excellent discourses on various topics; and those who helped conduct the business meetings; and Lou Montavano, who was elected to the post of President-Elect, to Eleanor B. Stone, who was elected to the post of Treasurer, to Roger Wessell, who was elected to the post of Editor-Elect. The Representative Assembly chose Boston, Mass., as the site of the 1955 Convention.

Roger Wessel reported on the plan for the certification of Corrective Therapists. He outlined the plan and told how it would operate. A discussion concerning the standards of education required for certification followed.

Hy Wetstein, Chairman of the Program Committee, announced a tentative schedule of three joint Clinical and Educational sessions with the N. Y. Chapter of the American Association of Rehabilitation Therapists.

Mrs. Stone announced that part of the agenda for the next business meeting to be held some time in December would be the election of Chapter Officers for 1954.

UTAH CHAPTER

A meeting of the local Utah Chapter was held on October 7, 1953 at the Veterans Hospital, Station 5252, for the purpose of establishing the preliminary Chapter and By-Laws pertinent to a local constitution.

Harley Hughes had prepared a tentative constitution which was read and then discussed by the group present. Changes and revisions were made after a group discussion on the various issues.

The constitution is to be re-written in accordance with suggested changes recommended by the group at this meeting and will be presented again at the next meeting.

TEXAS CHAPTER PLANNING JOINT ANNUAL MEETING

The Annual Meeting of the Texas Chapter of the Association will be held in San Antonio. The exact dates have not been set pending the probability of holding the meeting to coincide with the Southwest Section of the Congress of Physical Medicine and Rehabilitation. Many of our Chapters are promoting joint meetings with organizations of similar professional interest. This results in beneficial exchange of scientific and clinical ideas and techniques. Address any inquiries concerning the Texas Chapter to Major H. J. Rockstroh, 554 Graham Road, Fort Sam Houston, Houston, Texas.

CALIFORNIA ELECTS OFFICERS

At a recent meeting of the California Chapter, the following officers were elected. Rudolph Jahn, Long Beach Hospital, President; Bernie Webber, Wadsworth Hospital, Vice President; Richard Barr, Long Beach Hospital, Secretary and Hamilton Stephens, Brentwood Hospital Treasurer.

(*Editor's Note*: Someone has said, "Brevity is the soul of wit," but this column too frequently, receives to little, too late from to many Chapters. Chapter activity is one of the Association activities that keeps organizations atune to what is of interest and importance to the membership. Art Landy is always anxious to hear from the Chapter News editor or Corresponding Secretary. His address, in case you have misplaced it is: 335 Church Street, Chillicothe, Ohio).

News and Comments

OUR AGING POPULATION

Dr. John Eisele Davis, in a talk delivered at the Ohio-Kentucky semi-annual meeting, presented the following statistics:

"The problems of Geriatrics are of increasing importance both within and without the Veterans Administration. At the end of last year there were 40,000 patients in the VA Hospitals of 55 years and older. By 1970 it is estimated that the number of veterans over 65 years of age will be ten times as great as the present number. Since 1900 the population of the United States has doubled but the number of persons 45-64 years old has tripled, while the number 65 years and older has quadrupled. In early 1952 there were 13 million men and women 65 years of age and over. This number is increasing at the rate of about 400,000 a year. Chronic disease is four time more prevalent in age groups over 65 than it is in those below this age."

FORMER "C. T." CHIEF AT UNIVERSITY OF EDINBURGH, SCOTLAND

On Scholarship at University of Edinburgh, Scotland, Sidney L. Toabe, formerly Chief of Corrective Therapy at VA Hospital, Cheyenne, Wyoming is on an extended educational leave, fulfilling a Fulbright Scholarship at the University of Edinburgh, Scotland. Sidney, while in Europe, will be in position to establish professional relationships with various Remedial Gymnastic groups. He will prepare an article for the Journal to acquaint our readers with rehabilitation abroad.

OUR PRESIDENT ATTENDS EMPLOYMENT OF HANDICAPPED MEETING

President Harold M. Robinson is in Washington. While attending the meeting of the President's Committee for The

Employment of the Handicapped in Washington, D. C., our President took the opportunity to visit Central Office, conferring with Dr. Davis, Dr. Harvey Tompkins, Chief, Neurology and Psychiatry; Dr. Harold Hildreth, Chief, Clinical Psychology and Dr. A. B. C. Knudson, Chief, Physical Medicine and Rehabilitation Service. With Dr. Davis he paid his respects to Admiral Boone and discussed some of the current problems in Corrective Therapy.

CONGRESSIONAL MEDAL OF HONOR TO SPRINGFIELD REHABILITATION TRAINEE

Raymond G. Murphy, a graduate student in rehabilitation at Springfield (Mass.) College, was awarded the Congressional Medal of Honor by President Eisenhower at appropriate ceremonies at the White House on October 27. Mr. Murphy, a former Lieutenant in the Marine Corps, received the nation's highest award for heroism in combat for his exploits on a Korean battlefield, when, despite two wounds he refused medical aid in order that wounded men under his command could be removed to safety.

Mr. Murphy, a native of Pueblo, Colo., plans to enter the field of corrective therapy upon the completion of his graduate study. He is particularly interested in the rehabilitation of the disabled veteran and hopes to enter the Veterans Administration program next year.

GREATER AID TO ARTHRITICS URGED

Representatives of two major groups engaged in the fight against the ravages of arthritis told members of a special House committee on Oct. 5 that 70 per cent of the nation's 10,000,000 arthritis suffers could be restored to useful lives with proper medical care. Gen. George C. Kenney, president of the Arthritis and Rheumatism Foundation told the special committee which is investigating progress in fighting disease that a lack of trained specialists prevented arthritis sufferers from receiving the benefits of modern treatment. Gen. Kenney claimed that 3,500,000 victims were getting no care at all at the present while another 6,500,000 were receiving only "rather sketchy care."

Dr. Charles Ragan, president of the American Rheumatism Association reported that 7 out of every 10 persons now suffering from arthritis could be restored to active lives. He said that the miracle drugs were "not the final answer to arthritis" despite their success in relieving distress and stated that medical research had made but little progress in determining the cause of the disease.

Dr. Currier McEwen, dean of the N.Y.U. College of Medicine, claimed that a shortage of trained specialists caused a "bottleneck" in the fight against arthritis and said money for more teaching and study was "badly-urgently needed."

SIXTH WORLD CONGRESS FOR WELFARE OF CRIPPLES

Persons from all parts of the world interested in services for the disabled will assemble at The Hague, Netherlands, from September 13 to 17, 1954, for the Sixth World Congress of the International Society for the Welfare of Cripples.

Representatives of the twenty-six national organizations which are members of the International Society are expected to attend the Congress, as well as representatives of the United Nations, World Health Organization and other governmental and non-governmental organizations interested in services for the physically handicapped.

The Congress will be held under the joint auspices of the International Society for the Welfare of Cripples (ISWC) and the Netherlands Central Society for the Welfare of Cripples, the affiliated national organization in Holland.

The program will present demonstrations, panel discussions and special meeting analyses of developments throughout the world in services for the disabled.

The International Society for the Welfare of Cripples is a federation of national voluntary organizations providing services for the physicaly handicapped children and adults. Founded in 1922, it has, for many years, been the outstanding organization of its type in the international field.

The Society's program includes all phases of rehabilitation of the disabled—prevention, medical services, education, social services, therapy, recreation and employment. It serves as an international clearing house for information concerning technical and social developments in rehabilitation services for the handicapped.

The services of the Society are extended to persons and organizations throughout the world, both members and non-member, who are engaged in work for the benefit of the handicapped. The affiliated member in the United States is The National Society for Crippled Children and Adults, with headquarters in Chicago. The central offices of the International Society for the Welfare of Cripples are locted in New York. Mr. Konrad Persson, Director General of the Royal Pensions Board and Chairman of the Norrbackainstitute in Sweden, is President of the Society.

A RECOMMENDED POLICY FOR EMPLOYMENT OF THE PHYSICALLY HANDICAPPED

(Editor's Note: In these recommendations we find specific standards suggested for the benefit of the patient and as a guide for the employer.)

To insure that full consideration will be given to the physically handicapped in examination, appointment, or reassignment;

1. PHYSICAL STANDARDS WILL BE FAIR, REASONABLE, AND ADAPTED TO THE REALISTIC REQUIREMENTS OF JOBS.

Such standards will be based on complete, factual information regarding working conditions, hazards, and essential physical requirements of each job, ascertained by investigation and examination of the duties of the jobs as performed. Physical standards will not be to arbitrarily eliminate the physically handicapped from consideration.

2. AN OPPORTUNITY WILL BE PROVIDED FOR A FAIR APPRAISAL OF PERTINENT QUALIFICATIONS OF PHYSICALLY HANDICAPPED APPLICANTS AND EMPLOYEES.

Where preemployment tests are used, opportunity will be provided applicants with certain physical impairments to demonstrate pertinent knowledge, skill, and abilities by testing methods adopted to their special circumstances. This will include the blind, deaf, and all others who may have difficulty in taking the usual examinations.

3. PHYSICAL ABILITIES OF HANDICAPPED PERSONS BEING CONSIDERED FOR EXAMINATION, APPOINTMENT, OR REASSIGNMENT WILL BE APPRAISED IN RELATION TO THE ESSENTIAL PHYSICAL REQUIREMENTS OF THE JOBS.

Particular attention will be given to the degree to which handicapped applicants or employes have compensated for their impairments by the development of special skills or methods, by the sharpening of unimpaired senses, or by the use of prosthetic devices.

All levels of administration and supervision will participate in carrying out this policy. Management will: (a) Take such action as is necessary to bring about an understanding and application of the policy by all appointment officials and others who participate in the hiring or reassignment of employees; and (b) make periodic review of the manner in which the policy is being observed throughout its jurisdictions.
(Courtesy Public Service Committee—President's Committee on NEPH Week).

DR. NEWMAN CHANGES POSITION

Dr. Louis B. Newman has been appointed Chief of the Physical Medicine and Rehabilitation Service at the new 520 bed Veterans Administration Research Hospital, 333 E. Huron St., Chicago. Prior to this appointment Dr. Newman was Chief of Physical Medicine and Rehabilitation at the Veterans Administration Hospital, Hines, Illinois since March, 1946.

DR. SIDNEY LICHT IN EUROPE

Dr. Licht writes: "I have been in Europe since July, visiting libraries for my notes on a multivolume History of Physical Medicine. I have visited Libraries in Belgium, Holland, Switzerland and France and hope to include Denmark, Spain and England."

Our readers will remember Dr. Licht as the editor of "Occupational Therapy and Rehabilitation" and the fine surveys that Journal contained of the literature of Physical Medicine and

Rehabilitation of International interest. We wish him well in this important project.

RECRUITMENT OF NEW HOSPITALS

The Veterans Administration Reserach Hospital, 333 West Huron Street, Chicago, Ill., is in need of therapists, GS-5 and GS-7. This is a GM&S Hospital. Send your 57's to Norman Tenner, Chief Corrective Therapy.

LIEUT. COL. CECIL W. MORGAN APPOINTED PROFESSOR OF PHYSICAL EDUCATION

Springfield, Mass., Jan. 5.—Prof. Clayton T. Shay, acting director of the graduate division at Springfield College has announced the appointment of Lieut. Col. Cecil W. Morgan of Pittsburgh, Pa., as Professor of Physical Educaion at the college.

Dr. Morgan will supervise Springfield's expanding program in rehabilitation, having distinguished himself in his service work with the U. S. Army Medical Corps' rehabilitation and reconditioning program.

Under Dr. Morgan's guidance, Springfield will further develop its unique affiliation with the U. S. Veterans Administration. The college has been officially designated for the clinical training of physical educators for work in hospitals and institutions for the handicapped. Thirty students on the graduate level are now studying rehabilitation on the campus followed by field work in selected government hospitals.

Professor Morgan will also serve as adviser to the students who, upon graduation, will serve on the staffs of VA hospitals, state institutions and schools of specialized education for handicapped children.

The Association welcomes Col. Morgan's return to teacher training and wish him success.

NEW JUNIOR SIZE OF THE POPULAR HOLLYWOOD WHEEL CHAIR IN PRODUCTION

This new model, according to the distributor: (*Everest and Jennings, Inc., 761 N. Highland Ave., Los Angeles 38, Calif.*) will be available in three attractive styles:

1. *Junior Standard Model* with Hollywood Plating and Maroon Duck Upholstery.
2. *Junior Elite Model* with Hollywood Plating and Maroon Leatherette Upholstery.
3. *Junior Deluxe Model* with Triple Chrome Plating and Maroon Leatherette Upholstery.

Specifications are the same as the adult size with the exception of the arms, back and seat being three inches lower and the overall width being 1½ inches narrower.

These versatile wheel chairs are really three wheel chairs in one. By means of simple interchangeable parts it can be easily changed to an outdoor chair (illustrated) or to an indoor chair (large wheels in front) or to a special glide about chair with four small casters. This convertible feature is excellent for hospitals, institutions and centers which require several different types of chairs to meet the needs of various disabilities and conditions undergoing therapy.

Full information may be obtained from Everest & Jennings, Inc.

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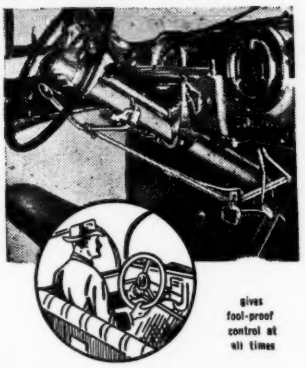

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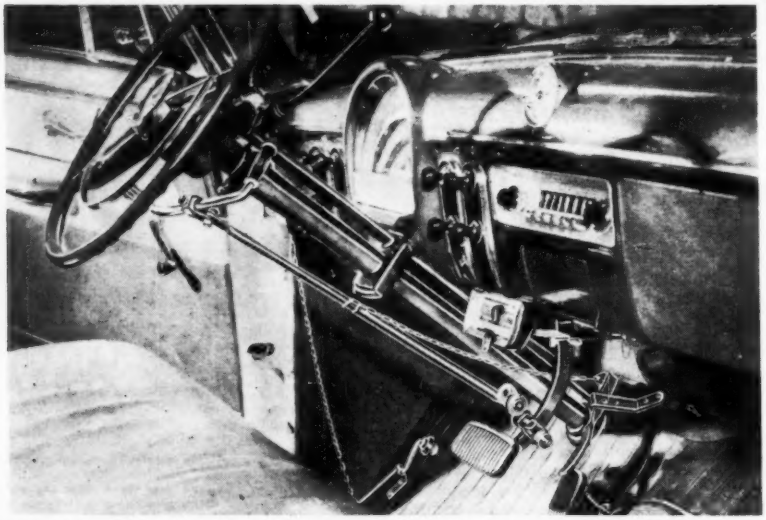

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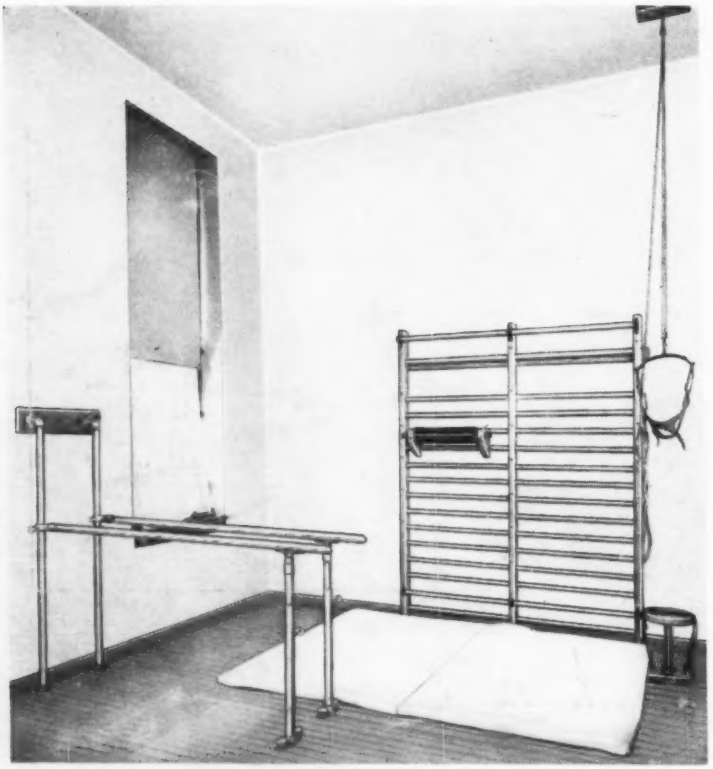

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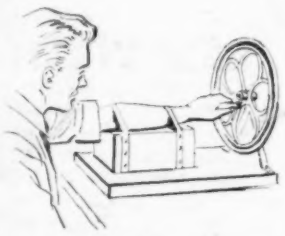

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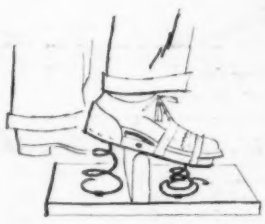

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